

AN ANALYSIS OF THE ROLE OF THE BALTIC STATES PORTS IN THE TRANS SIBERIAN RAILWAY MARKET

by

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ABSTRACT

AN ANALYSIS OF THE ROLE OF THE BALTIC STATES PORTS IN THE TRANS SIBERIAN RAILWAY MARKET

ANASTASIA LILIOPOULOU

Almost all the people involved in the shipping industry have come in touch from time to time with what is known as container transit. Some of these people may be working in one way or another in this field, whilst others may be familiar with the meaning and the importance of container transit. This research aims to examine the potential of the Baltic States' ports as transit gateways for the Trans Siberian container market. This work is divided in two parts, the theoretical and the practical.

The first part of the study provides a theoretical presentation of the construct under investigation, starting with an introduction, presenting the objectives of this study, an overview of the region, the structure of the thesis and the limitations of the study. The next chapter focuses on providing a historical overview of the Baltic Sea region in order to establish the historical background of the countries involved in this trade while under the Soviet rule. Gradually the circle of the research will be widened and will concentrate on presenting and analysing the Trans Siberian Railway, along with various future projects that can influence its future performance. Also, the Baltic States will be initially presented individually but then will be analysed as gateway markets for containers in competition with Finland. In addition, the most important future factors that can influence the potential of the Baltic States' ports as a gateway market for containers will be analysed followed by an advanced literature review, better known as content analysis. Last but not least, a conceptual model will be designed in order to present a summary of the whole work so far.

The second part of this research is the technical part and includes the statistical techniques applied in order to derive composite policies for the Baltic States. Initially, the scaling development is presented along with the derivation of the scale for this study and the statistical tests that determined the final form of the questionnaires. The next chapter is divided in four sections providing: a background for the experts participating in this research, the application and results from conducting Analysis of Variance and t-tests, as well as a descriptive statistical analysis of each one of the statements included in the questionnaire along with anecdotal data and comments derived from the experts in the region. The final section in this chapter presents a set of policies that is believed can be useful to the companies involved in that region. Moreover, the last chapter of this study provides a presentation of the problems which occurred while undertaking this research, as well as a discussion concerning further research.

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LIST OF ABBREVIATIONS

CCTST: The International Coordinating Council on Trans Siberian Transportation

CIS: Commonwealth Independent States

CTP: Common Transport Policy

EBI: European Bank Instrument

EBRD: European Bank for Reconstruction and Development

EC: European Commission

EIB: European Investment Bank

EU: European Union

FSU: Former Soviet Union

GDP: Gross Domestic Product

IFI: International Financial Institution

OECD: Organization for Economic Cooperation and Development

PACT: Pilot Actions for Combined Transport

SU: Soviet Union

TEN: Trans European Networks

TSCL: Trans Siberian Container Line

TSR: Trans Siberian Railway

USA: United States of America

USD: United States Dollar

VR: Vaition Rautatiet (Finnish Railways)

WB: World Bank

WTO: World Trade Organization

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AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award.

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Relevant scientific and commercial conferences were attended at which a number of important contacts with experts from the Baltic Sea region were established; external institutions and individuals were either visited or contacted for consultation purposes and one paper was prepared and published.

Conferences Attended

TransRussia 2000, 5th Moscow International Transport and Logistics Exhibition and Conference, (2000), 'International Transport and Logistics Conference', May 15-16, Moscow, Russia.

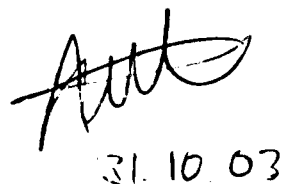
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TransBaltica 2001 VI International Conference, (2001), 'Transport-Communications-Logistics', June 7-8, Riga, Latvia.

Publication

Roe, M., Liliopoulou, A., and Pasukeviciute, I., (2001), 'Oil and Containers in Transit Through Lithuania', Jura Journal, Issue 5, pp. 88-89.



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CHAPTER ONE

INTRODUCTION

The introductory chapter of this study provides a background to the research. The dramatic changes which have taken place in Russia and the Baltic States in the last 12 years, have created an impact in the shipping industry, never experienced before¹. On the one hand, the economic, social and political transition of these ex-communist countries, and on the other hand, the Trans Siberian Railway's key geographical position connecting Western Europe and the Far East, has attracted the interest of a number of investors who see the logistical potential of the region.

This research aims to analyze the role of the Trans Siberian Railway as an export route for containers in transit from Russia and the Far East, and the potential of the Baltic States in competition with ports in Russia and Finland.

1.1 Study Objectives

This research has a number of objectives.

- ♦ To review the current role of the Trans Siberian Railway (TSR) in the movement of containers from Russia, China, Japan and countries of the Former Soviet Union (FSU) to Europe and for export elsewhere.
- ♦ To analyze the role of the ports of the Baltic States in providing the inter-modal link with shipping services in the Baltic Sea in competition with alternative port facilities in Russia and Finland.

¹ Gros, D., Steinherr, A., (1995), 'Economic Transition in Central and Eastern Europe', Published by Longman, London.

- ♦ To assess the future of container movements by the TSR through the Baltic States in the light of their impending accession to the EU.
- ♦ To identify and recommend major policy initiatives for the Baltic States in terms of transit policy for potential container traffic by the TSR.

These objectives will be achieved in a number of stages:

- ♦ A literature review of academic, commercial and industrial publications covering the TSR, transit in the Baltic States, the export of containers from Russia, the Far East and the FSU.
- ♦ A statistical analysis and technical review of the TSR and its traffic over the past 15 years and projections of its future growth and capacity.
- ♦ A content analysis of these sources to derive the major policy issues which are most commonly viewed as influencing the development and use of the TSR for container movements.
- ♦ The derivation of a series of statements from the content analysis, which encapsulates the major policy issues which are most commonly believed to direct the development, revitalization and expansion of container transit facilities for the TSR through the Baltic States. These statements will be presented to a representative sample of experts from the industry and a rating scale (Likert scale) will be used to measure their degree of agreement/ disagreement with these issues.
- ♦ Statistical measures of agreement/ disagreement will be calculated and the measures input to a one-way Analysis of Variance (ANOVA) and a t-test technique to derive the major composite policy themes which the experts believe direct container transit policy in the region and which have most significance in

the context of the TSR and its relationship to and use of Baltic States ports.

Policy recommendations will follow.

1.2 Overview of the Region

After the Second World War, Eastern and Central European countries were taken under Soviet control, as agreed by the West at the Yalta Conference in 1945². The Baltic State ports had become naval bases of vital importance for the Soviet Union. However, their favourable geographical position influenced their development as the main facility for containers in transit to Western Markets.

In 1991 the countries of the Baltic States became independent. Independence brought great transformation effects in the Baltic States. Suddenly after all these years under the absolute control of a communist sufficient Union, these countries were exposed to an open and highly competitive market with low capital availability³. The ports particularly of the independent states have been faced with declining traffic levels, uncertainty over ownership and property rights within port areas and competing demands for access to waterside facilities for vessel and handling activities⁴.

However, in 1992 all the Baltic States adopted a comprehensive reform package involving price and trade liberalization and small-scale privatisation, in order to meet the European Union's standards⁵. The Baltic States also emphasised the privatization process within their ports aiming to attract strategic investors, including foreign investors, in order to improve both superstructure and infrastructure⁶.

² Karbonski, A., (1992), 'The Columbia History of Eastern Europe in the Twentieth Century, Published by Columbia University Press, New York.

³ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

⁴ Cowiconsult, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea', Published by the European Union's Regional Group on Ports and Maritime Transport in the Baltic Sea, July.

⁵ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd, London.

⁶ Sea trade Review, (1996), 'Hitting the Privatisation Trail' April.

Their governments in the meantime managed to set up the proper institutional framework, including an European Integration Council and other structures, in order to prepare for integration into the EU. The Baltic States aim to meet the criteria set out in Copenhagen for countries applying for EU membership⁷.

It is a very interesting fact that, since the collapse of the Soviet Union, these former communist countries have remained as one of the important issues frequently covered by the Western media, not only because of the dramatic political developments that have occurred but also due to the economic developments, commonly in the maritime sector⁸. The transition of shipping in these countries into competitive markets aroused the public interest. Western governments, firms, international organizations, are eager to be kept informed, to understand, to advise, to trade, to invest, to be involved in one way or another in this region⁹.

However, the importance of Russia and the Trans Siberian Railway cannot be over emphasized. Russia has a key geographical position; connecting Western Europe to Far Eastern markets through a 5,867-mile railway system (TSR), and vice versa¹⁰. The route offers much potential, particularly in the context of increasing environmental awareness and the emphasis on rail freight in this context, and the policies of the EU, which aim to encourage inter-modal transport for similar reasons.

Currently the main outlets to the sea for Trans Siberian Railway containers are through south Finnish ports, but the ports of the Baltic States see opportunities in competition with them particularly in the light of new or planned container terminal facilities in Klaipeda,

⁷ Baltic Times, (1999), 'Fischer backs Baltic States in EU Drive', September 9-15.

⁸ Estrin, S., (1994), 'Privatisation in Central & Eastern Europe', Published by Longman, London.

⁹ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition. Published by Mac Millan Press Ltd, London.

¹⁰ ECMT (European Conference of Ministers of Transport), (1997), 'Which Changes for Transport in the Next Century?' published by ECMT, October.

Ventspils, Liepaja and Riga¹¹. Competition from land based rail services across Europe to these Baltic States' ports shipping services is limited by the difference in rail gauge of Russia once crossing the Polish border and the costs this imposes¹².

The development of Baltic States port facilities following transition offers similar encouragement to TSR containerized services particularly in contrast to the ice affected port of St. Petersburg and the port of Kaliningrad which although in Russian territory, is physically separated by Lithuania and Belarus. Both ports also have security problems. This research aims to analyze the potential for the Baltic States ports to acquire a greater share of the Trans Siberian Railway containerized traffic as it transfers mode from rail to sea and to achieve this by utilizing expert opinion as the basis for developing policies for this market.

This will be placed in the context of the dynamic Russian economy, accession trends of the Baltic States to the EU, competition from Finnish ports and the characteristics of the TSR containerized trade. It will be practical in its approach with the aim of offering advice to policy-makers in the Baltic States on strategies for the future derived from a comprehensive literature review and the close involvement of regional experts, whilst retaining strong theoretical validity through its use of established techniques of content analysis, Likert scale and ANOVA analysis.

1.3 Structure of the thesis

This thesis consists of ten chapters including introduction and conclusions. The current chapter, chapter one, introduces the background to the research, whilst presenting the aims and the objectives of this work, as well as the components of each chapter.

¹¹ Paykkonen, P.A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', Master of Science in International Logistics, Published by the University of Plymouth, Plymouth.

¹² Bergstrand, S., Doganis, R., (1987), 'The Impact of Soviet Shipping', Published by Allen and Unwin, London.

Chapter two aims to provide an overview of the impact of the Soviet Union upon the Eastern European transport sector, and more specifically, upon the Trans Siberian Railway and the Baltic States ports. In addition, the chapter presents a further up to date overview of the Trans Siberian Railway, including statistics of the container traffic transported via the Trans Siberian Railway in the last seventeen years. It also provides a more detailed analysis of the present issues related to the Trans Siberian Railway and any future agreements or projects that it is believed would contribute to the improvement, development and expansion of the Trans Siberian Railway.

Chapter three aims to provide an overview of the Baltic States of Estonia, Latvia and Lithuania, during the transition period, including their economy, privatization and the transport sector.

Chapter four will widen the circle of research by presenting the gateway market for containers that move via the Trans Siberian Railway and Russia. Each potential route will be presented separately mainly focusing on the transport infrastructure. In addition, the advantages and disadvantages of each route will be given in order to determine the potential of each route.

Chapter five aims to present the main external factors that can influence the future potential of the Baltic States ports in re-directing any TSR container traffic that currently goes through the Southern ports of Finland. Such factors will include the accession of the Baltic States in the European Union as well as current Russian policies that encourage the handling of containers by its own ports.

A conceptual model is developed in chapter six. However, in order for one to understand the effects that the Trans Siberian Railway can have upon the transit ports of Baltic States, and the potential of these ports, it is necessary to examine the main factors that influence the Trans Siberian Rail market. Reviews of previous research on the region provide a basis

for the identification of the main factors which have an impact upon the Trans Siberian Rail market and the Baltic States.

Chapter seven attempts to provide a basis for the development of this research by conducting a Content Analysis. Content Analysis is a both qualitative and quantitative technique, designed to identify the main issues that are influential upon the current and future development of the market potential of the Trans Siberian Railway. The main issues derived by this technique were used to form a number of statements that later were presented to experts of the region.

Chapter eight provides insights into the use of Likert scales since they were chosen as the most suitable scaling method, providing a rating scale (1-5) that would be used to measure the experts' degree of agreement/ disagreement with these issues.

Chapter nine will present the results of the analysis conducted. The chapter is divided into three parts. The first part, presents the background for the analysis, whereas, the second part, gives details of the application of the Analysis of variance (ANOVA) and the t-test analysis applied for this research. The specific statistical techniques were chosen as the most appropriate for the purpose of this research. Moreover, the third part of the chapter provides a descriptive analysis of each one of the statements, as well as fundamental insights into the region, based on anecdotal data derived from the experts, that would contribute to the formation of recommendations and policies concerning the Eastern Baltic region.

Last but not least, chapter ten discusses major policy initiatives for the Baltic States in terms of transit policy for potential container traffic by the Trans Siberian Railway. In addition, this chapter provides the conclusion for this research and presents the problems, which occurred while conducting this research and the way that the author dealt with these problems. In addition, the chapter provides information about further future research as

well as barriers to the policies that have been developed for the Baltic States through this research.

1.4 Limitations of the study

As mentioned earlier in this chapter, this study aims to analyze the potential of the Baltic States ports in the Trans Siberian Railway container market. One should be aware that when the author refers to the Baltic States, she refers only to the Baltic States of Estonia, Lithuania and Latvia due to the fact that these are the only three ex East European states that have the same rail gauge with Russia. Although, Poland is a Baltic State, it has not been included in this study because Poland has a different rail gauge with Russia which means that containers moving via the TSR could enter Lithuania (with the same rail gauge), but at the Polish border the containers would have to be unloaded and reloaded into Polish wagons. One can assume that the costs of such operation would be considerably higher.

Furthermore, this research concentrates on the gateway container traffic that moves via the Trans Siberian Railway. Up until 2002 the major Trans Siberian container flow moved through the southern Finnish ports of Kotka, Hamina and Helsinki. Therefore, the Finnish route will be analyzed in chapter five, along with the Baltic States route. In recent years the Baltic States gateway route (referring to the major container ports, Tallinn, Riga, Leipajia, Klaipeda) has increased its share in this traffic. In addition, there is a third gateway route, the inland route. However, the inland route will not be analyzed in this study due to the fact that this route is a natural choice of intra-European containers¹³, and only Finland and the Baltic States compete for the containers that travel via the TSR since they have the same rail gauge as Russia.

¹³ Virolainen, Simo, (2001), Coordinator, VR Cargo Ltd.

Moreover, there are two Russian ports in the Baltic Sea region, St. Petersburg and Kaliningrad. Even though these ports can be seen as competitors to the other two routes these ports were not analyzed in chapter five as gateways due to the fact that these two ports handle very little container traffic that moves via the Trans Siberian Railway. Nevertheless, the author has decided to include the port of St. Petersburg and the port of Kaliningrad in chapter six, and treat these ports as two ports that might have the potential in the future to compete for Trans Siberian container traffic.

Finally, between 2000-2001 and while visiting the Baltic States of Lithuania and Latvia, as well as Russia, the researcher of this study met 30 experts, among which were high ranking government officials, who provided important information for this research. However, the information collected was mainly used as anecdotal data in the analysis of the results chapter, due to the fact that these experts demanded to remain anonymous. Therefore, no information about the agenda of the experts is given throughout the project, except the type of occupation while analyzing the results.

CHAPTER TWO

THE TRANS SIBERIAN RAILWAY

2.1 Introduction

Russia has a key geographical position, connecting Western Europe to Far Eastern markets through a 5,867 miles railway system (TSR), and vice versa¹. This intermodal route has many names: Trans Siberian Railway, Trans Siberian Land bridge, Trans Siberian Route, and Trans Siberian Line, but any of the names stands for the shortest rail route in the world between the two regions² (See Appendix 1). Throughout the years, the Trans Siberian Railway has been proven to have the longest history of commercial freight operation between Europe and the Far East³. As a result, the creation and later performance of the Trans Siberian Railway has been affected by both the history of the Russian Empire and modern Russia⁴.

However, the development of the Russian empire and extensively of the Trans Siberian Railway is not bound by normal historical practices. The most suitable approach requires an understanding of the Soviet Communist transport philosophy which stems from Marxism-Leninism as the ideological theoretical and methodological base⁵; therefore, the effects of the Soviet Rule upon the Baltic States and the TSR will be presented first, followed by changes that occurred in the TSR since the collapse of the Soviet Union, and any future projects that can determine the potential of the TSR.

¹ ECMT (European Conference of Ministers of Transport), (1997), 'Which Changes for Transport in the Next Century?' Published by ECMT, October.

² Moore, K., A., Greenwich Forum VI, (1980), 'Development of the USSR'.

³ ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', pp. 68, Published by ECMT.

⁴ <http://www.infoplease.com.ce6/world/A0849291.html>

⁵ Hill, R., J., (1989), 'Soviet Union', 2nd Edition, Published by Pinter, London.

2.2 The Trans Siberian Railway under the Soviet Rule

Soviet foreign trade was dominated by three principles: (1) the trading partners had to be neighbouring communist countries or the developing third world countries to which the Soviet Union has given aid involving trade credits, (2) the sale of diamonds, gold, furs etc., to acquire foreign exchange and (3) the acquisition of essential raw materials and consumer imports on most favourable terms⁶.

In July 1971 the Council for Mutual Economic Assistance (CMEA), which was a multilateral economic alliance responsible for promoting the economic development of the countries that were under the Soviet rule, adopted a plan for complex Socialist economic integration, which led to more joint projects and information exchange between members⁷. The plan included the exchange of goods among communist countries frequently by bilateral negotiations. However, in the years to follow more and more trade drifted outside the bloc countries, mainly to the third world countries for imports of raw materials against capital goods or towards a varied trade with Western European countries⁸. In the same period the Soviet Union established an energy trade with the Federal Republic of Germany. In 1973 the oil crisis and the severe price increase in crude oil would lead the CMEA to focus its international activities upon the energy sector and durable consumer goods⁹. In addition, the lack of convertible currency would lead the Soviet Union to constitute energy trade with Western Europe in order to earn hard currency¹⁰. That could be achieved easily because the price system in the Soviet bloc did not depend on the principles of supply and demand, but rather upon a series of state-controlled prices for all commodities¹¹. The transport sector was continually subsidized and that meant that the transport sector and

⁶ Jain, R., (1993), 'Germany, The Soviet Union and Eastern Europe, 1949-1991', 1st Edition, Published by Sangam Books Ltd., London.

⁷ Jorre, G., (1961), 'The Soviet Union', 2nd Edition, Published by Lonhman, London.

⁸ Mellor, R., (1975), 'Eastern Europe: A Geography of the Comecon Countries', Published by Macmillan Press Ltd., London.

⁹ Jain, R., (1993), 'Germany, The Soviet Union and Eastern Europe, 1949-1991', 1st Edition, Published by Sangam Books Ltd., London.

¹⁰ Jain, R., (1993), 'Germany, The Soviet Union and Eastern Europe, 1949-1991', 1st Edition, Published by Sangam Books Ltd., London.

¹¹ Roe, M., (2001), 'Polish Shipping Under Communism', 1st Edition, Published by Ashgate Ltd, London.

more specifically, shipping and the railways could develop as major hard currency earners¹².

Even though this opening to the West, against the policy of self-sufficiency, was opposed in the Soviet bloc, it provided the opportunity to develop true commercial skills and experience of the free market¹³. The new order occurring in the Soviet bloc required new changes in order to be able to trade and benefit from the West. Therefore, the most vital change involved the establishment of a convertible currency¹⁴. That was mainly due to the fact that Eastern European countries were constrained by the lack of foreign currency, and that meant that these countries had to export first in order to be in a position to import later¹⁵. Unfortunately the currencies in the whole Soviet bloc were not convertible, in the sense that:

‘They could not be purchased or sold against other currencies at a single exchange rate without restrictions and for all purposes’¹⁶.

This problem was partially resolved in 1976 by introducing a commercial rate, which was calculated as the average amount of domestic currency needed to earn a unit of foreign currency.

As far as the transport sector was concerned, the Soviet Union dominated the main transport routes of Eastern Europe for military reasons¹⁷. In particular the Baltic State’s ports were developed as naval bases to serve Soviet military purposes. However, in later years those ports were favoured as primary avenues for trade in import/export transit

¹² Lavigne, M., (1999), ‘The Economics of Transition’, 2nd Edition, Published by Mac Millan Press Ltd.

¹³ Soviet Shipping, (1989), ‘CMEA Jubilee and Prospects’, January.

¹⁴ Bernard, P., J., (1966), ‘Planning in the Soviet Union’, 1st Edition, Published by Pergamon Press, London.

¹⁵ Moore, K, A, Greenwich Forum VI, (1980), ‘Development of the USSR’.

¹⁶ Lavigne, M., (1999), ‘The Economics of Transition’, 2nd Edition, pp. 66, Published by Mac Millan Press Ltd.

¹⁷ Zurek, J., (2001), ‘The Role of Seaports in Region Development’, Published by the University of Gdansk.

cargo¹⁸. In addition, the Baltic ports were regarded as essential windows on the Western trade systems and markets¹⁹. Nonetheless, the emphasis towards industrialisation, favoured the development of rail networks at the expense of other modes²⁰. The most significant network, used for the movement of freight was the Trans Siberian Railway, connecting Eastern Europe and Russia to the Far East²¹. Rail transport flourished in the middle of 1960's mainly due to the growth in the agricultural and industrial sectors and more particularly to its geographical position, serving even the vast areas of Siberia²².

In the years to follow trade with West Europe flourished even more. The introduction of containerization in the world market benefited both the shipping and railway sector in the Soviet bloc due to the fact that it led to the co-operation and co-ordination of these two sectors and provided through combined transport, the fastest and cheapest route from Far East to Western Europe and vice versa²³. More specifically, in 1967 the progress of containerization and intermodal transport helped the Trans Siberian Railway to gain value as the shortest and cheapest alternative route compared to the deep-sea route from Europe to the Far East²⁴.

In the late 1960's experimental shipments between Japan and Europe using the Trans Siberian Railway were conducted²⁵. In 1971 a formal agreement was signed between the Soviet agency, Soyuzvneshttrans, and the Japanese and European freight forwarding agents for the operation of the Trans Siberian container route and the creation of a modern system

¹⁸ European Union's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea', Published by Cowiconsult.

¹⁹ Buchhofen, E., (1995), 'Transport infrastructure in the Baltic States during the transformation to market economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 69-75.

²⁰ Callinane, K., and Toy, N., (1998), Planned Road Network Developments in the Baltic Sea Region', Transport Reviews, Vol. 18, No. 1, pp. 37.

²¹ Miller, E., (1978), 'The Trans-Siberian Land Bridge, A new Trade Route Between Japan & Europe', Soviet Geography Vol. XIX, No. 4, 34-38.

²² Mathieson, R., S., (1975), 'The Soviet Union', 1st Edition, Published by Heinemann Educational Books, London.

²³ Slepven, I., (1996), 'The Trans Siberian Railway', History Today, Vol. 46, pp. 37.

²⁴ Soviet Shipping Journal, (1982), 'Trans Siberian Container Service', pp 25-27, February 2.

²⁵ Zheleznodorozhnyy Transport, (1975), 'Automated Control of Container Transport', July.

of intermodal container shipping known as the Trans Siberian Container Service (TSCS)²⁶. The first recipients of licenses to operate on the TSR were Y.S Van Gend and Loos, and C.T.I (JEURO)/ M.A.T. Transport.

According to this agreement the Soviet agency was responsible for most of the facilities of the intermodal service. Furthermore, the agreement provided that containerized cargo heading to Western Europe would be moved using Japanese and Soviet vessels from Japan to the Russian port of Nakhoda²⁷. Once the containers reached Nakhoda they would be loaded on flatcars and move across the TSR to Moscow. From there the containers would be routed to container terminals on the Baltic Sea in Tallinn (Estonia) and Riga (Latvia)²⁸. There the containers would be transferred to ships heading to the country of final destination.

Co-operation and co-ordination among the countries of the new self-sufficient communist Soviet Union was vital for the TSR's success to follow. The block trains that were used to carry the containers were manufactured at the ports of Leningrad and Tallinn and at the rail station Brest and the port of Vostochny²⁹. Moreover, the USSR focused on transforming its Baltic ports from naval bases to water gateways for containers in transit. The port of Leningrad was the first of the Soviet ports to develop as a container port providing all kinds of container facilities including repairs to damaged containers and equipment³⁰.

In addition, Soviet shipowners established four companies which served the Western European market and maintained a network of TSCS liner services³¹. These were:

²⁶ Miller, E., (1978), 'The Trans-Siberian Land Bridge, A new Trade Route between Japan & Europe', Soviet Geography, Vol. XIX, No. 4, pp. 34-38.

²⁷ U.S News and World Report, (1975), 'A Land bridge Across Russia-How It's Working' December 15.

²⁸ Izvestiya, , (1975), 'Containers in Transit', December 12.

²⁹ TSCS leaflet, (1980), Morflot Publishing Agency, USSR, Moscow.

³⁰ Queiroz, Cesar, (2001), 'Major Trends in the Transport Sector and Impact on the Baltic States', Trans Baltica 2001 International Conference, June.

³¹ TSCS leaflet, (1980), Morflot Publishing Agency, USSR, Moscow.

- ♦ The Baltic Shipping Company
- ♦ The Estonian Shipping Company
- ♦ The Latvia Shipping Company
- ♦ The Azov Shipping Company.

The Baltic Shipping Company was based in Leningrad operating a fleet of container vessels and Ro-Ro ships. The Company was providing weekly services to/from Tilbury and Hull in the United Kingdom, Antwerp in Belgium, Rotterdam in The Netherlands, Hamburg and Bremen in Western Germany³². Tallinn in Estonia was the most important transshipment port for the TSCS due to its geographical location, close to the Scandinavian countries. The Estonian Shipping Company was operating frequent services to ports in Stockholm in Sweden, Oslo and Drammen in Norway, and Aarhus and Copenhagen in Denmark³³. The Latvia Shipping Company was based in Riga. The Company was providing regular container services to Dublin in Ireland, Ellesmere (UK), and Le Havre in France³⁴. The Azov Shipping Company was situated in the port of Zhdanov. This Company was covering all the Mediterranean countries. Services were operated from/to Valencia, Barcelona, Ravenna, Savona, Venice, Rijeka, Piraeus, Istanbul, and Alexandria. All four Companies were closely co-operating with the TSCS by providing an extensive sea network for containers in transit from the Far East to Western Europe and vice versa³⁵.

On the other end of the Trans Siberian Railway, regular services that would link the system to ports in the Far East were developed. In 1976 the port of Vostochny was developed into the terminal gate of the Trans Siberian Railway with the ultimate aim to accommodate TSCS liner services in the Far East³⁶. The Far Eastern Shipping Company maintained all

³² Lukov, N., E., General Secretary of the Coordinating Council on Trans Siberian Transportation, June, (2000).

³³ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

³⁴ TSCS leaflet, (1980), Morflot Publishing Agency, USSR, Moscow.

³⁵ TSCS leaflet, (1980), Morflot Publishing Agency, USSR, Moscow.

³⁶ Bergstrant, S., and Doganis, R., (1987), 'The impact of Soviet Shipping', Published by Allen & Unwin, London.

the TSCS container services in the Far East, including those to Japan, Hong Kong, Philippines, and Thailand.

In 1975 the FIATA Congress observed that:

‘The organization of shipments by the Trans Siberian Containers Service was a major achievement on the part of European and Japanese forwarding agents’³⁷.

In December 1979 the V/O Soyouztransit association was formed which was the Soviet Foreign Trade Self-Supporting Corporation, the sole forwarder of transit shipments via the USSR territory³⁸. V/O Soyouztransit offered three transit routes by TSCS: TRANSRAIL, TRANSEA and TRANSCONS.

The TRANSRAIL route was providing transit for cargo moved from the Soviet border stations, Luzhaika, Brest, Chop, Ungeny, Djulfa and Kushka to ports in Japan and other countries in South – East Asia, and vice versa. V/O Soyouztransit was responsible for the receipt of containers from the European railways at the Soviet border stations and their movement by rail to destinations via the ports of Vostochny and Nakhodka³⁹. The transit time was 25-30 days.

The TRANSEA route was providing arrangements for the transportation of containers from European ports to Soviet ports in the Baltic and Black Sea, shipment by rail to the ports of Vostochny and Nakhodka and further transshipment to a vessel for delivery to its destination, and vice versa⁴⁰. The transit time was 35-40 days.

Finally, the TRANSCONS route was responsible for the carriage of containers by road from Europe to Vysoko-Litovsk near Brest. Once the containers reached Brest, they were

³⁷ Soviet Shipping Journal, (1982), ‘Trans Siberian Container Service’, pp 25-27, February 2.

³⁸ Bergstrand, S., and Doganis, R., (1987), ‘The Impact of Soviet Shipping’, Published by Allen & Unwin, London.

³⁹ Soviet Shipping Journal, (1982), ‘Trans Siberian Container Service’, pp 25-27, February 2.

⁴⁰ TSCS leaflet, (1980), Morflot Publishing Agency, USSR, Moscow.

transshipped to trains heading to the ports of Vostochny and Nakhodka⁴¹. From there the containers were delivered to their destination by sea. The transit time was 40-45 days.

One should be aware that in order to provide the above routes efficiently V/O Soyouztransit was closely co-operating with many forwarding agents, shipping carriers in Europe and Japan, the Soviet railway, and the trucking association Sovtransavto⁴².

In the early 1970's, the joint efforts of the Soviet and foreign parties, involved in the improvement of the Trans Siberian Container Service, helped the Trans Siberian Railway to win popularity and confidence with Japanese and Western European transport communities⁴³. By 1979 the Trans Siberian Railway had won more than 20% of Japan's westbound export cargo⁴⁴. Moreover, the improvement in political relations between the USA and Soviet Union in 1980 lead shippers to view the Trans Siberian Railway more positively⁴⁵.

At this point it should be emphasized that the actual figures for the amount of containers carried by the TSCL were difficult to compile accurately due to a number of reasons such as different sources, for their own reasons, providing different statistics of the amount of containers that the Trans Siberian Container Line handled since its establishment⁴⁶. In addition, the figures were, in some instances, confused by the number of different countries that transport their containers via the TSR route, making the comparison of origin/destination areas a difficult task⁴⁷. The main reasons behind these problems were the lack of co-operation between the operators involved due to competition, the lack of co-ordination among the parties involved in this trade, and lack of organization of the TSCL.

⁴¹ TSCS leaflet, (1980), Morflot Publishing Agency, USSR, Moscow.

⁴² Bergstrand, S., and Doganis, R., (1987), 'The impact of Soviet Shipping', Published by Allen & Unwin, London.

⁴³ Helmer, J, (1999), 'Moller weighs future of Russian intermodal route', Journal of Commerce, 2 August.

⁴⁴ Lloyd's Shipping Economist, (1979), 'Treat from Rail Link', February.

⁴⁵ Lloyd's Shipping Economist, (1980), 'Russians Unjustly Persecuted?', January.

⁴⁶ Lloyd's Shipping Economist, (1980), 'Soviet Rail Link Delay', October.

⁴⁷ Lloyd's Maritime Asia, (1990), 'Trans Siberian Railway: Contest on the Orient Express', December.

Also another reason behind the publication of different figures at the time was the strict regulations included in the old Soviet economic system. More specifically, the Soviet economic system was based on targets. If a company succeeded fulfilling the targets imposed then the company could earn more money and more security. However, if a company failed to meet the targets imposed by the Soviet Rule, then the consequences were very unpleasant. Hence, all companies during Soviet times were publishing results that showed they had met targets, even if such results did not reflect the reality⁴⁸.

However, experts of the region have managed to compile a set of figures that were reliable enough to provide a general picture of the TSR route. This was achieved partly through collating a wide range of sources and partly by comparing the trade between Europe and Japan carried by TSCL and that carried by the Far East Freight Conference⁴⁹. In terms of figures or more specifically in terms of TEU capacity, the numbers of containers transported by the TSCL between Europe and the Far East increased from 55,000 TEU in 1978 to over 100,000 TEU in 1979⁵⁰. However, in 1980, and for no apparent reason, the movement of containers from Europe to Japan and Korea via the Trans Siberian Container Line suffered a considerable decline of 10,000 TEU⁵¹.

Nevertheless, as Figure 2.1 indicates, the movement of containers via the Trans Siberian Railway, in total, had increased in the 1980's, reaching in 1983 110,683 TEU. The main reason for this sharp increase between 1980 and 1983 is mainly due to the war between Iran and Iraq that started in 1980⁵². More specifically, the number of containers destined for Iran in 1980, increased by 400% when compared with 1979, reaching 24,000 TEU⁵³.

⁴⁸ Anecdotal data derived from experts in the Baltic States region.

⁴⁹ Lloyd's Shipping Economist, (1980), 'Soviet Rail Link Delay', October.

⁵⁰ <http://www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm>

⁵¹ <http://www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm>

⁵² Lloyd's Shipping Economist, (1981), 'Trans Siberian Container Line', July.

⁵³ Lloyd's Shipping Economist, (1981), 'Trans Siberian Railway', April.

This was mainly due to both the effects of the war with Iraq, which resulted in the closure of the Iranian ports, and the shortage of shipping space in most trades heading to Europe⁵⁴.

From 1982 onwards the competition between sea and rail operators on the Europe/Far East route became increasingly intensive due to the announcement of the Trans Siberian Container Line's intention to reduce tariffs, which was expected to increase the container traffic using the railways compared with sea⁵⁵. However, the main reason behind this policy adopted by the TSCL for the reduction of tariffs was not only to increase volumes but at the same time to bring hard currency in the Soviet regime.

However, during the same period the competition between shipping lines on the Far East to Europe route was also increasing resulting in adding to the already available capacity⁵⁶. The TSCL was now causing a major concern among shipping lines that were strongly opposed to the Soviet Union's regulation of competition between the Trans Siberian Railways and maritime routes, and also about the subsidies provided to the TSR⁵⁷.

In the first half of 1983 the trade to Iran had increased, and more specifically, the volumes of containers from the Far East to Iran via the Trans Siberian Railway, causing shipping owners operating in the Arabian Gulf to introduce more upgraded services to Iran⁵⁸. At the same time, Soyuztransit (SOTRA), the authority which operates the transit system in the TSR, in the light of the increased container volumes to Iran, was facing problems due to congestion at the Far East ports of Vostochny and Nakhodka and the inland station of Djulfa on the Iranian border. The congestion led to delay of containers and raised the

⁵⁴ Lloyd's Shipping Economist, (1981), 'Trans Siberian Railway', April.

⁵⁵ Lloyd's Shipping Economist, (1982), 'Struggling into Container Age', July.

⁵⁶ Lloyd's Shipping Economist, (1981), 'Trans Siberian Railway', April.

⁵⁷ Lloyd's Shipping Economist, (1981), 'Trans Siberian Railway', April.

⁵⁸ Lloyd's Shipping Economist, (1983), 'Iran Trade Starts to Recover', August.

question by the TSR's operators about the future capacity of the land Bridge⁵⁹. By the end of 1983, the total volume on the Iran-bound TSR cargo was approximately 44,600 TEU⁶⁰.

In addition, the Trans Siberian Railway, in order to keep an advantage over sea transport, introduced at the beginning of 1985 regular express block train services⁶¹. Each block train had 52-55 wagons, carrying up to 110 TEU and these were dispatched to five Soviet border destinations: Leningrad (for UK/Baltic traffic), Chop (Czechoslovakia/Hungary), Brest (Poland/Germany), Djulfa (Iran) and Lujanka (Finland) within 20-21 days from Japan⁶². This newly established service was co-coordinated on the TSR by an expert non-vessel operating common carrier, Jeuro Container Transport Inc.

*'In its capacity as general agent for v/o Soyuztransit (SOTRA)-the Soviet body responsible for operating the Trans-Siberian Container Service-Jeuro arranges all block trains bookings through its Yokohama office placed by fellow members of the Trans Siberian Intermodal Operators Association of Japan (TSIOAJ)'*⁶³.

Moreover, along with the new block train system came further improvements in the TSR's operational system, including the introduction of a computer tracking system to monitor the movement of containers along the Trans Siberian Railway⁶⁴.

When one looks at the overall movement of containers via the Trans Siberian Railway between 1980 and 1989 it is clear that from 1983 onwards the volume of containers has slightly fallen but since then they seem to have remained relatively stable.

However, after 1989, the major political differences between the Soviet Union and its East European satellites, led to a great uncertainty over the future of the Trans Siberian

⁵⁹ Lloyd's Shipping Economist, (1983), 'Iran Trade Starts to Recover', August.

⁶⁰ Lloyd's Shipping Economist, (1983), 'South Korea and North Europe Liner Trade', November.

⁶¹ Lloyd's Maritime Asia, (1990), 'Trans Siberian Railway: Contest on the Orient Express', December.

⁶² TSCS leaflet, (1980), Morflot Publishing Agency, USSR, Moscow.

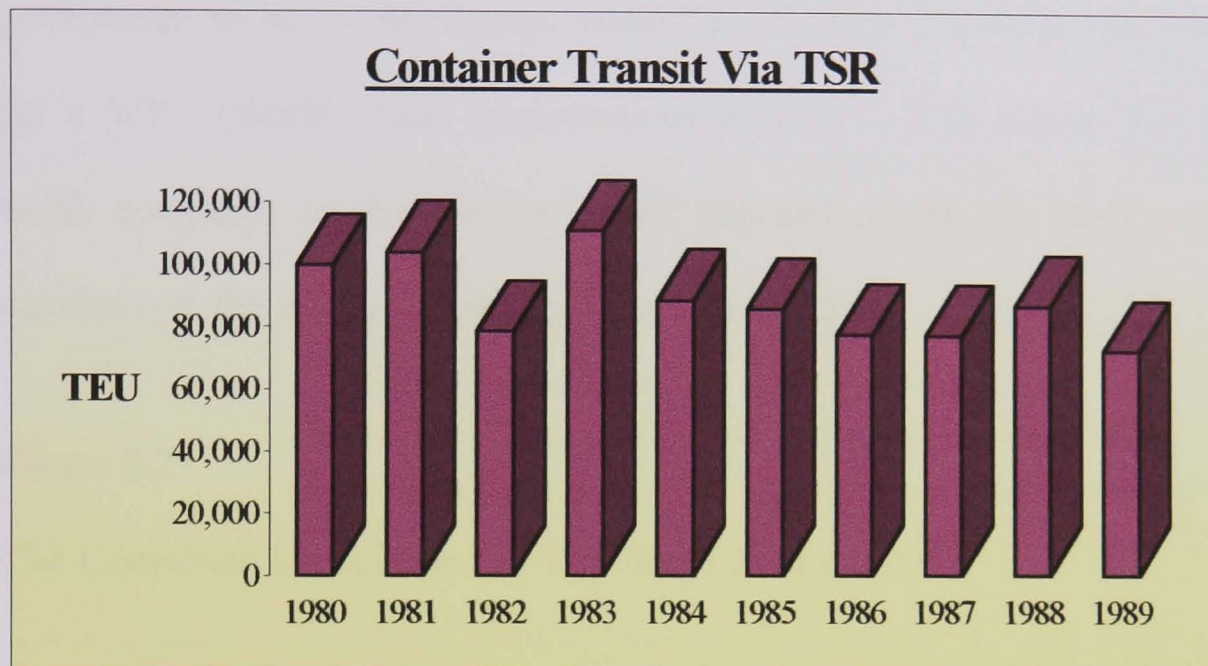
⁶³ Lloyd's Maritime Asia, (1990), 'Trans Siberian Railway: Contest on the Orient Express', December.

⁶⁴ Lloyd's Maritime Asia, (1990), 'Trans Siberian Railway: Contest on the Orient Express', December.

Railway⁶⁵. The collapse of the Soviet Union in 1991 negatively influenced the future of the Trans Siberian Railway and its co-operation with foreign partners. All the Baltic State's ports that were developed in Soviet times in order to facilitate Soviet trade had chosen to leave the Soviet Union and become independent⁶⁶.

Figure 2.1

The Container Transit via the TSR from 1980 to 1989



Source 1: www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm

Source 2: Nikolai Lukov, Secretariat of the CCTST

Since the collapse of the Soviet Union, these former communist countries have remained as one of the important issues frequently covered by the Western media, not only because of the dramatic political developments, which occurred, but also due to economic developments, sometimes in the maritime sector⁶⁷. The transition of shipping in these countries into competitive markets had aroused widespread interest. Western governments, firms and international organizations, are eager to be kept informed, to understand, to advise, to trade, to invest, to be involved in one way or another in this region⁶⁸. In other

⁶⁵ Lloyd's Shipping Economist, (1990), 'Sprucing up the TSR', September.

⁶⁶ Cargo Systems, (2002), 'Baltic Ports', March.

⁶⁷ Estrin, S., (1994), 'Privatisation in Central & Eastern Europe', Published by Longman, London.

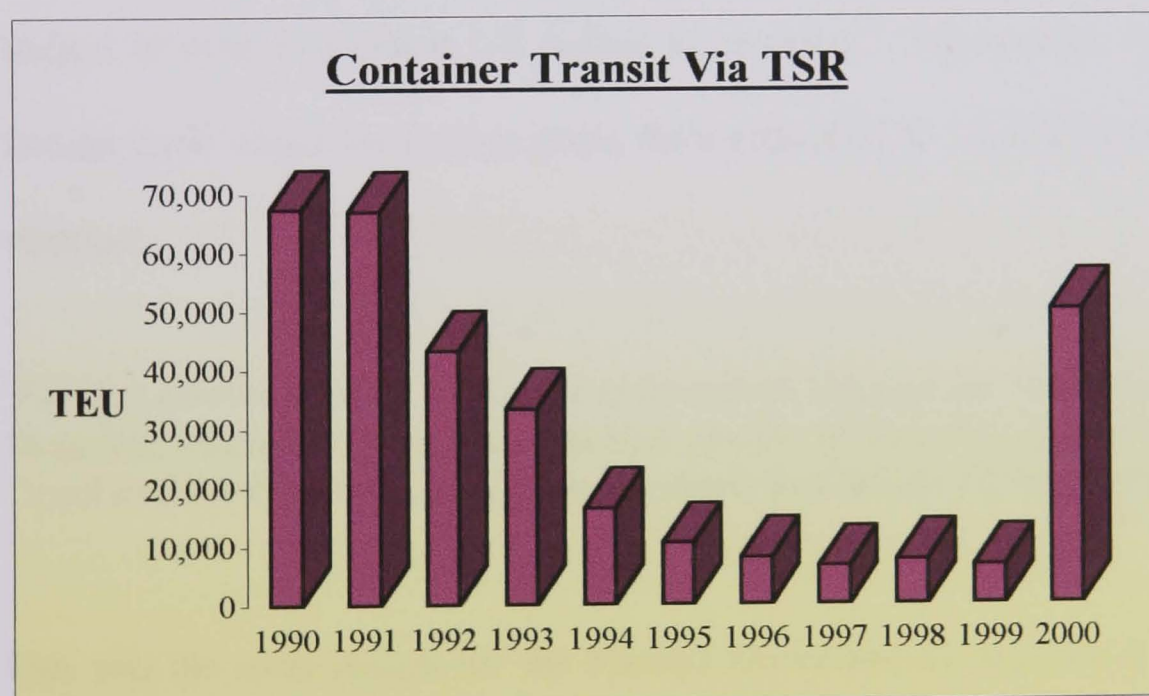
⁶⁸ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd.

words, the ports that were once developed to serve and facilitate the Soviet trade were now becoming Russia's most serious competitor.

As one can see in Figure 2.2, the containerised freight flows were considerable up to 1991. After the collapse of the Soviet Union and a period of economic instability, Russia moved towards economic reforms, including, a new tariff policy, the construction of new ports in the Baltic and privatization⁶⁹. The new tariff changes were considered by the Russian government to be a quite normal protectionist policy, due to the fact that Russia was not yet a WTO (World Trade Organization) member⁷⁰. This means that Russia reduced its tariffs compared to the standard tariff imposed on all the other countries, which are members of the WTO, in order to remain competitive.

Figure 2.2

The Container Transit via the TSR from 1990 to 2000



Source 1: www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm

Source 2: Nikolai Lukov, Secretariat of the CCTST

⁶⁹ Containerisation International, (1997), 'Government Support for Land Bridge', October.

⁷⁰ Papers presented by Russian government in the 1992 conference held in Karlskrona, Sweden.

Unlike other modes of transport in Russia, the railways managed to both retain their own ministry and avoid privatisation after the collapse of the Soviet Union, and to pursue a new tariff policy⁷¹. More specifically:

‘The railways preferred to push up freight rates to compensate for falling traffic as the economy went into decline, once the government allowed them to, rather than keep rates down in order to stimulate economic activity and maintain traffic levels’⁷².

The construction of new Russian ports in the Baltic Sea and more specifically in the Finnish Gulf began when privatisation in Russia was under way and the country started to run out of money for such an economic reform. The existing and proposed Russian ports in the Gulf of Finland are: Primorsk, Bukhta Batareinaya, Ust-Luga and Kaliningrad. However, the importance of these potential ports will be analyzed later.

In the first half of the 1990’s, Russia’s annual revenues from transit was less than one billion US dollars while in the 1980’s, Iranian transit alone earned the Soviet Union a budget of over five billion US dollars in revenues⁷³. Meanwhile, transit costs of Russian foreign trade cargo via foreign ports were estimated at 1.2 billion US dollars a year⁷⁴. In addition:

‘Foreign currency losses by Russia upon transit through the Gibraltar, the Danish straits of Skageltar, Kattegatt, Oresund, Turkish straits of Bosphorus and Dardanelles, the Suez Canal and the Panama Canal make up about one billion US dollars annually in 1991’⁷⁵.

This was the main reason for the Russian Government’s decision to move cargo flows to Russian ports and to the overland transport corridor of the Trans Siberian Railway.

Therefore, privatization seemed to be the key to attract foreign capital and establish better political relations with Western Europe and the Far East⁷⁶. Therefore, the Russian Ministry

⁷¹ RZD-Partner Magazine, (2001), ‘Past and Present of Trans Siberian Mainline’, September 5.

⁷² North, R., N., (1997), ‘The Columbia Caspian project: The current State of Russian Railways’, Published by the University of British Columbia, New York.

⁷³ RZD-Partner Magazine, (2002), ‘Tariff Policy Should Be Balanced’, February 2.

⁷⁴ RZD-Partner Magazine, (2001), ‘Past and Present of Trans Siberian Mainline’, September 5.

⁷⁵ Papers presented by Russian government in the 1992 conference held in Karlskrona, Sweden.

of Railways moved in 1991 to the partial privatization of the service with the sale of 50% to Sealand of the USA and the formation of the Trans Siberian Express Service⁷⁷. This joint venture with the Russian Ministry of Railways maintained the original aim of the route to act as an alternative and faster service to deep-sea links from Japan, China and Korea to Europe and USA⁷⁸. However, the tariffs on the Trans Siberian Railway continued to rise, mainly due to the fact that the operators involved in the route's trade, had overestimated the TSR's advantage over the deep-sea route⁷⁹.

When one summarizes the main reasons that led to the sharp decrease of container movements via the TSR, as presented in Figure 2.1, these would include:

1. The collapse of the Soviet Union and the decision of the Baltic States of Estonia, Latvia and Lithuania, to become independent had adversely influenced container markets from the Far East to Western Europe via these ports. This was due to the fact that since the Second World War, Russia transformed and utilized these ports in her best interest for the movement of cargo⁸⁰. However, after 45 years Russia suddenly had to adjust to the changes that independence brought and to start paying in order to move freight through the Baltic ports.
2. Prior to 1991 the freight rates on the Trans Siberian Railway were approximately 20% to 30% cheaper than the freight rates on the deep-sea routes (via Suez Canal), creating a considerable attraction for cargo owners to use the Trans Siberian Railway⁸¹. However:

⁷⁶ The Russian Journal, (2001), 'Russian Transport Policy to Boost Export Flows', July.

⁷⁷ Containerisation International, (1992). 'An American in Moscow', October.

⁷⁸ Helmer, J., (1999), 'Russia Railroad Ministry to Divert Some Operations', Journal of Commerce, August 2.

⁷⁹ Lukov, N., E., (2001), Secretariat of the Co-ordinating Council for the Trans Siberian Transport.

⁸⁰ Queiroz, C., (2001), 'Major Trends in the Transport Sector and Impact on the Baltic States', Trans Baltica 2001 International Conference, June.

⁸¹ Lukov, N., E., General Secretary of the Coordinating Council on Trans Siberian Transportation, June, (2000).

‘From the early 1980’s, competition in shipping costs intensified between shipping companies within alliance and independent shipping companies. In the middle of this competition in shipping costs, the major shipping companies started to disclose cheap prices in an effort to promote rationalization. Shipping costs to major ports in Northern Europe dropped below half of previous levels’⁸².

3. Nearly a half of the container volumes carried in the 1980’s were destined for Iran.

As mentioned earlier, the war between Iran and Iraq in 1980 made impossible the use of the deep-sea route for the movement of cargo to these countries, and therefore freight was concentrated on the Trans Siberian Railway. Nevertheless, this was a special wartime demand that lasted until the end of the war at the end of the 1980’s⁸³.

4. Since the early 1990’s, political changes occurred in the Soviet Union, with the dissolution of communist rule resulting in increasing deterioration of public safety within Russia.

‘Around 1992-1993, the Trans Siberian route, most of the traffic of which was actually bound for Finland, was frequently robbed, with major car manufacturers and electrical appliance manufacturers sustaining freight damage one after another, forcing them to stop using the Trans Siberian Railway’⁸⁴.

5. Another apparent reason for the collapse of the container volumes via the Trans Siberian Railway was the limited technical and organizational capabilities of the route⁸⁵. While the unstable Russian economy had reduced the traffic on the railways, it had also reduced the capacity of the Trans Siberian line through the lack of maintenance and investment, including the replacement of worn-out equipment⁸⁶. In addition, the inability to replace rolling stock hampers, or even any

⁸² <http://www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm>

⁸³ Lloyd’s Shipping Economist, ‘Mutual Benefits in East and West’, August.

⁸⁴ <http://www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm>

⁸⁵ Queiroz, C., (2001), ‘Major Trends in the Transport Sector and Impact on the Baltic States’, Trans Baltica 2001 International Conference, June.

⁸⁶ North, R., N., (1997), ‘The Columbia Caspian Project: The Current State of Russian Railways’, Published by the University of British Columbia, New York.

efforts to change its composition in order to meet the customers needs, for example to increase the share of flat cars for carrying containers⁸⁷. However, by 1996 there was an improvement of the technical equipment, including freight–train speed, average train weight, and an increase in both freight car and locomotive productivity⁸⁸.

The majority of containers used on the sea routes are 40 foot containers, but the containers provided by the main carriers in the TSR (Ministry of Railways, Fesco, etc.), which are able to be used on trains departing from the Far East are limited to 20 foot, and under these conditions rail transport falls behind sea transport⁸⁹.

And finally, a major impact influencing the failing performance of the Trans Siberian Railway, was the limited organizational and managerial capacity that the route had to offer⁹⁰. The railways had limited incentive to co-operate with neighboring railway lines, and the container trains were not given the priority they needed in order to meet their schedules and avoid delays⁹¹. Moreover, they did not have the capability of keeping track of containers, and any efforts to bring in foreign companies to assist were failing due to quarrelling among the parties involved in the TSR on the Russian side, as to which companies should be brought in and what role they should play⁹².

⁸⁷ Papers presented by Russian government in the 1992 conference held in Karlskrona, Sweden.

⁸⁸ North, R., N., (1997), 'The Columbia Caspian Project: The Current State of Russian Railways', Published by the University of British Columbia, New York.

⁸⁹ <http://www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm>

⁹⁰ Lukov, N., E., General Secretary of the Coordinating Council on Trans Siberian Transportation, June, (2000).

⁹¹ Information provided by the Estonian Railways, (2002).

⁹² ⁹² North, R., N., (1997), 'The Columbia Caspian project: The Current State of Russian Railways', Published by the University of British Columbia, New York.

2.3 The International Coordinating Council on Trans Siberian Transportation

At the end of 1993 the International Coordinating Council on Trans Siberian Transportation (CCTST) was established, coordinating the activities of carriers, operators and forwarders with regard to moving transit, import and export cargo via the TSR⁹³. In addition, other objectives included: the creation of unified conditions and principles for joint working of all the parties involved in the TSR route, provide a high quality of operation, develop an efficient international intermodal transportation system, and promote economic relations between countries of South-East Asia, the Far East, the Middle East, the CIS States and Europe⁹⁴. More specifically, the ultimate aim of the CCTST is to improve the quality of the TSR and regain the trust of cargo owners⁹⁵. The CCTST meets once or twice a year, in order to discuss issues related to the activity of the CCTST and the TSR. The decisions taken are always binding for all the members of the Council⁹⁶.

According to the Coordinating Council these are the main functions that CCTST fulfills:

- ♦ Participating in improving the transportation of transit and bilateral cargo via the Trans Siberian Railway.
- ♦ Developing and adopting documents regulating the international railway and the multi-modal transportation process with regard to transporting cargo via the Trans Siberian Railway.
- ♦ Coordinating proposals related to fixing priorities for a comprehensive development of the transport and forwarding infrastructure and for the maintenance of the Trans Siberian Railway.

⁹³ Coordinating Council on Trans Siberian Transportation leaflet, (2000).

⁹⁴ Lukov, N., E., General Secretary of the Coordinating Council on Trans Siberian Transportation, June, (2000).

⁹⁵ Lukov, N., E., General Secretary of the Coordinating Council on Trans Siberian Transportation, June, (2000).

⁹⁶ Coordinating Council on Trans Siberian Transportation leaflet, (2000).

- ♦ Coordinating proposals with regard to acceptance of cargoes to be transported via the Trans Siberian route to the forms of transportation documents as well as to other documents, regulating the interrelationship of the parties involved in international transportation of cargo and sharing the responsibilities for possible violations of operational rules including the responsibility for secure transportation of cargo.
- ♦ Coordinating proposals on tariffs for the transportation of international cargoes as well as proposals of the parties interested in developing through rates for the transportation of cargo via the Trans Siberian Railway route.
- ♦ Setting up a mechanism for observing the responsibilities for delays in delivering cargoes, for non secure transportation of cargoes as well as fixing the procedure to be followed when settling disputes between the parties participating in the transportation of cargo via the Trans Siberian Railway.
- ♦ Taking decisions concerning the participation of the International Coordinating Council on Trans Siberian Transportation in the activity of other transportation organizations not directly involved in the operation of the Trans Siberian route.

At present, the CCTST members include the railways, shipping companies, ports, operators and forwarders from all over Eastern Europe and the Far East⁹⁷. Figure 2.3 presents all the members that either are part of the CCTST or are closely cooperating with it, including world wide shipping lines such as Mitsui O.S.K Lines and FESCO and forwarders like TSES, mainly owned by Maersk/Sealand.

The most important criterion on becoming a member of the CCTST is that the party interested in joining the CCTST should handle a volume of transit and/or import/export cargo of at least 1000 TEU containers per annum using the Trans Siberian Railway⁹⁸.

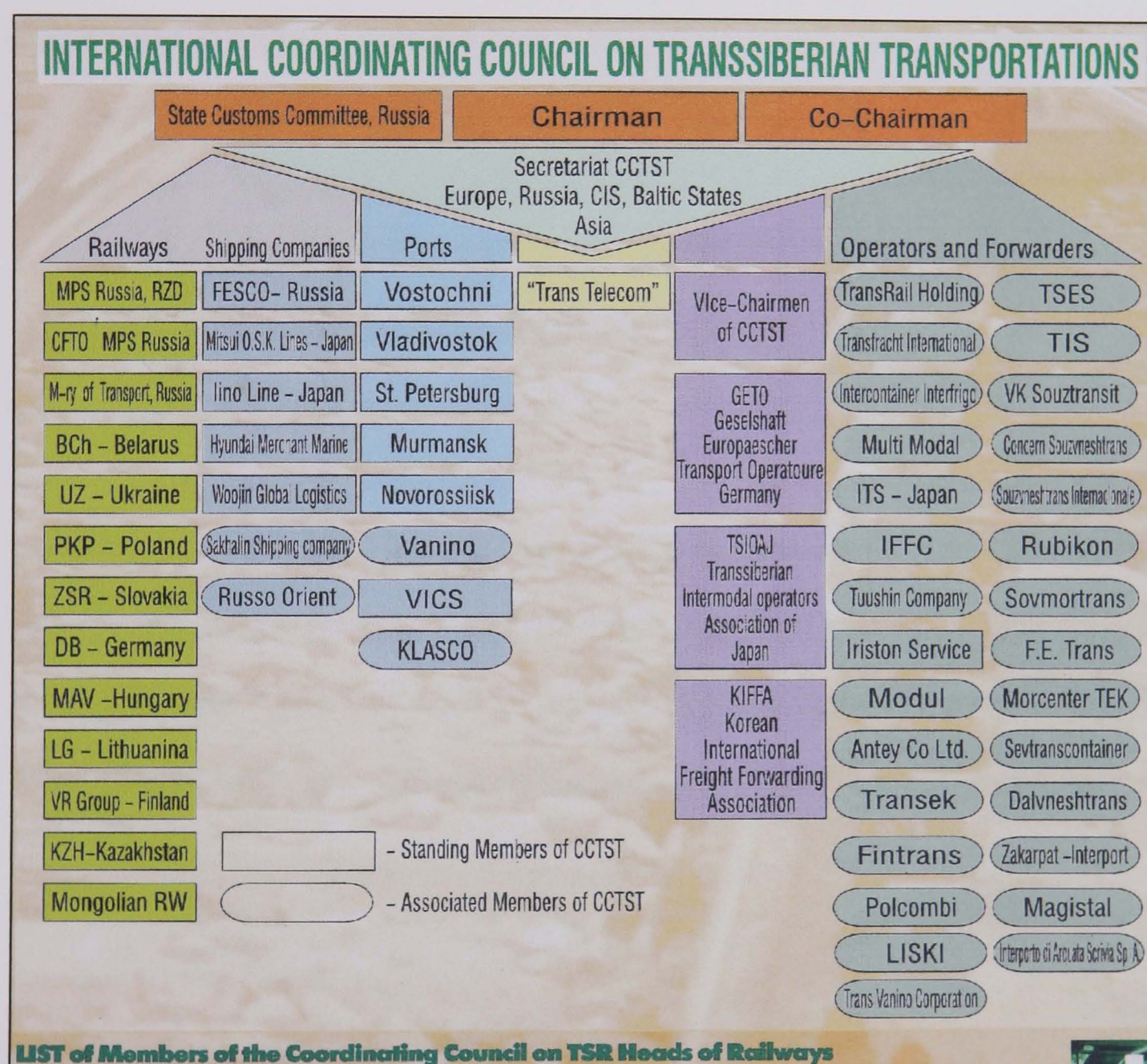
⁹⁷ Coordinating Council on Trans Siberian Transportation leaflet, (2000).

⁹⁸ <http://www.erina.or.jp/Forum/Forum2000/eSession1/eNagasawa.htm>

Since the formation of the CCTST many changes have taken place that have improved the Trans Siberian Railway and the volumes of containers in transit via this route⁹⁹. In 1997 all the TSR carriers and the port of Vostochny reduced their rates by 10%, and these rates are still in force in 2002¹⁰⁰. In addition, a more simple customs procedure has been applied at the port of Vostochny regarding the handling of containers in transit¹⁰¹.

Figure 2.3

List of Members of the Co-ordinating Council on TSR Heads of Railways



Source: Coordinating Council on Trans Siberian Transportation leaflet, 2000

Moreover, by 1998 the Ministry of Russian Railways adopted a new tariff policy, providing a reduction in tariffs from 30-43% for containers in transit to Iran, and a further

⁹⁹ Ministry of Railway Transport of the Russian Federation, (2001).

¹⁰⁰ <http://www.cctst.ru>

¹⁰¹ <http://ww.vpnet.ru>

reduction by 20-25% for any bilateral cargo transported over distances not less than 4000 km¹⁰². Likewise, the security guard charges applied prior to 1998 for accompanying containers transported via the Trans Siberian Railway, were cancelled, and any export or transit cargo moved to or via the CIS States had been exempt from VAT¹⁰³. However, even though the volumes of containers showed a slight increase at the beginning of 1998, unfortunately, the Russian economic crisis that year influenced container flows even more negatively via TSR¹⁰⁴.

The Russian Ministry of Railways has realized that the Trans Siberian Railway is destined potentially to make a significant contribution to the process of worldwide economic globalization¹⁰⁵. This notion or statement is based on the fact that the TSR route in the last 30 years has handled more than 2 million TEU, and has access points in Japan, South Korea, and China, and terminates in the Scandinavia states, Central Europe, Central Asia and the Middle East¹⁰⁶.

Furthermore, Russia has a geographical location that enables the Trans Siberian Railway route to provide the shortest, fastest and most economical journey¹⁰⁷. Table 2.1 indicates the transit times for containers from custom clearance (Vostochny port) moving via the Trans Siberian Railways to different destinations.

The TSR is much shorter than the deep-sea route, (by 11000-12000 km) and for some destinations like Finland and the Baltic States, 28-34 days by the deep-sea route, down to 12-15 days via the Trans Siberian Railway route¹⁰⁸.

¹⁰²[http:// www.cctst.ru](http://www.cctst.ru)

¹⁰³ <http://www.cctst.ru>

¹⁰⁴ Port Development International, (1995), 'Trans Siberian Loses Price Advantage', June.

¹⁰⁵ Ministry of Railway Transport of the Russian Federation, (2001).

¹⁰⁶ Ministry of Railway Transport of the Russian Federation, (2001).

¹⁰⁷ Werner, Albert, (2000), President of the TransRail Holding AG.

¹⁰⁸ Mantyla, Iimo, (2002), Product Group Manager, Finnish Railways.

This impressive reduction of transit time is mainly achieved by providing schedules for rapid container railway carriage traffic on the TSR, which were drawn up with the usage of ship movement quarterly schedules for the traffic lines from Japan-Russia and South Korea-Russia¹⁰⁹.

Table 2.1

Transit Times for Containers from Vostochny Port via the TSR to Various Destinations.

To/From		To/From	
To/from Finland	12-15 days	To/from Tajikistan	26 days
To/from North East Europe	22 days	To/from Afghanistan	25 days
To/from CIS States	24 days	To/from Baltic States	15-18 days
To/from Uzbekistan	22 days	To/from Moscow region	16 days

Source: Port of Vostochny: <http://www.vics.ru>

‘This schedule provides railway carriages departure from Nakhodka-Vostochny station on the next day after vessel’s arrival and containers discharging in the port of Vostochny. For the up-to-date information of consignors a through schedule is provided in the Internet’¹¹⁰.

In the last six years the Trans Siberian Railway route has featured dramatic improvements in number of transport days, transport information, safe transport and service when compared with the Trans Siberian Railway during its period of prosperity in the 1980’s. The Trans Siberian Railway line is completely equipped with double track, and with up to date communication systems (Tracking system)¹¹¹. In addition, along almost its whole length, direct and alternating high-power locomotives service the TSR line with weight standards of 6000-8000 tons freight trains, and assurance of freight safety. These developments and improvements along the Trans Siberian Railway are reflected best when one sees Figure 2.2, where the movement of containers via the Trans Siberian Railway had

¹⁰⁹ Ministry of Railway Transport of the Russian Federation, (2001).

¹¹⁰ RZD-Partner Magazine, (2001), ‘Past and Present of Trans Siberian Mainline’, September 5.

¹¹¹ Ministry of Railway Transport of the Russian Federation, (2001).

increased by 58% in 1999. This increase continued in 2000 with annual carrying 65,000 TEU and a further growth in 2001 of TEU between Asian-Pacific region and Europe via the TSR¹¹². The volume was accounted for by containers shipped from Shanghai (China) and Pusan (South Korea) ports to Europe via the TSR¹¹³. Moreover, in 2002 the TSR handled 70,500 TEU, and based on an announcement by the Russian Minister of Railways in April 2003:

‘In Quarter 1, 2003, the container volume carried by the TSR was up by 75% over the same period of 2002’¹¹⁴.

Although traffic started to pick-up continually since the end of 1999 (reaching annual throughput approximately of 70,500 TEU compared with a available capacity of 400,000-500,000 TEU) there are also secondary factors that have a strong influence for future transit container flows via the Trans Siberian Railway.

According to the Estonian Railways, the main factors delaying further increase in cargo shipment along the Trans Siberian routes are:

- ♦ The lack of a uniform tariff for the shipment of containers from point of origin to destination (for example, the Finnish railways charge higher prices for the transit of containers that move via the TSR to Western Europe, than the Baltic States railways).
- ♦ Time-consuming customs and logistical operations in Vostochny port.
- ♦ Limited ability of Russian operator to influence tariff, since nearly 60% of the tariff is formed outside Russia.

¹¹² Report provided by the Business Information Service for the Newly Independent States (BISNIS), January, (2002).

¹¹³ RZD-Partner Magazine, (2001), ‘Past and Present of Trans Siberian Mainline’, September 5.

¹¹⁴ Container Traffic Up on the Trans Siberian, [Http://www.seanews.ru](http://www.seanews.ru)

- ♦ Unjustifiably high rates for terminal processing at Vostochny port (however, the ports of Pusan and Shanghai charge double these rates).
- ♦ High tariffs for shipping containers by rail in Poland and Germany, that are 11 times the rates in Russia (this is an advantage for the Baltic States ports, since they are a lot cheaper and closer to Western Europe and Russia).

A further increase in container shipments along the Trans Siberian Railway depends on the whole transit chain cost, transit time and security starting from the point of origin to destination¹¹⁵. Nevertheless, as recognized by the Japanese Consignor Union representatives, who in 2000 investigated the performance capabilities of the Trans Siberian Railway from the port of Vostochny to Warsaw (Poland), the route has improved and is at a high international level¹¹⁶.

Table 2.2

Main Directions of the Container Traffic on the Trans Siberian Railway in 2000

From/To	% Of the total transit volume via TSR	From/To	% Of the total transit volume via TSR
Korean Republic-Finland	16,5%	Japan-Afghanistan	5%
Finland -Korean Republic	13%	Korean Republic-Uzbekistan	5%
Estonia-Korean Republic	8%	Korean Republic-Norway	4%
Korean Republic-Kazakhstan	5%	Korean Republic-Afghanistan	3,5%
Source: RZD-Partner Magazine. (2001). 'Analytic Material on TSR'. July 31.			

One should be aware that the Baltic State of Lithuania, in an effort to attract more containers moving via the TSR, have had a number of meetings with the Kazakhstan Ministry of Railways in order to establish a co-operation agreement for the shipment of

¹¹⁵ Estonian Railways, (2002).

¹¹⁶ Russian Ministry of Railways Magazine, (2001), 'The Road to the Future', September 5.

containers in transit from TSR and Kazakhstan via the Lithuanian railways and ports to Western Europe¹¹⁷.

Table 2.3

Container Traffic Using the Trans Siberian Railway for Only a Small Part of Its Journey in 2000

From/To	% Of the total transit volume via TSR	From/To	% Of the total transit volume via TSR
Japan-Mongolia	16,7%	Estonia-Hong-Kong	5,3%
Japan-Czech Republic	13,7%	Hong Kong-Kazakhstan	4,2%
China-Ukraine	5,5%	China-Romania	3,6%
Korean Republic-Lithuania	5,5%		
Source: RZD-Partner Magazine. (2001). 'Analytic Material on TSR'. July 31.			

As one can see, the Trans Siberian Railway has an active presence in Europe. Finland has been developing its port facilities in order to accommodate more cargo moving via the Russian territory. More than 40% of the total transit goods carried on the TSR are carriage between Finland and Asian countries. In addition transit freight from Russia is reported to account for more than a quarter of Estonia's budget receipts¹¹⁸.

2.4 Future projects

It is expected that the Trans Siberian Railway will play an increasingly important role in trade between Asia and Europe in the near future. This can be seen in a number of future projects that include the Trans Siberian Railway as a vital route for the movement of cargo from the West to East and vice versa. This section of the chapter will focus on presenting these future projects and their connection with the TSR.

¹¹⁷ Ministry of Lithuanian Railways, anecdotal data, (2001).

¹¹⁸ RZD-Partner Magazine, (2001), 'Analytic Material on TSR', July 31.

2.4.1 The Euro-Asian Project

In the light of the 21st century the globalization of trade has created the need for re-shaping transport requirements¹¹⁹. Based on reports released by the European Conference of Ministers of Transport (ECMT) in 2000:

‘The center of gravity of the world economy is gradually moving from West to East: from the Atlantic-centered constellation of Europe and the United States of America, to the Asia-Pacific region where the majority of population lives’¹²⁰.

This leads one to assume that the Asian region will become increasingly important to the economic future of Europe, in the same way that Europe is to Asia. Hence, the International Union of Railways (UIC) responded to these transport needs by developing six global freight corridors which run via Siberia (Russia) in the North, through Iran and Turkey in the Centre, and via the Indian region and South-East Asia in the South (see Figure 2.4). Rail transport within these corridors is particularly important because they can reduce the distances involved considerably. More specifically, these six corridors, widely known in the transport industry as the Euro-Asian corridors are¹²¹:

- Japan/South Korea—China—Central Asia—Europe
- China—Middle East—Europe
- South Asia—Middle East—Central Asia
- Maghreb—Europe
- South Africa—Eastern Africa
- North America—Europe

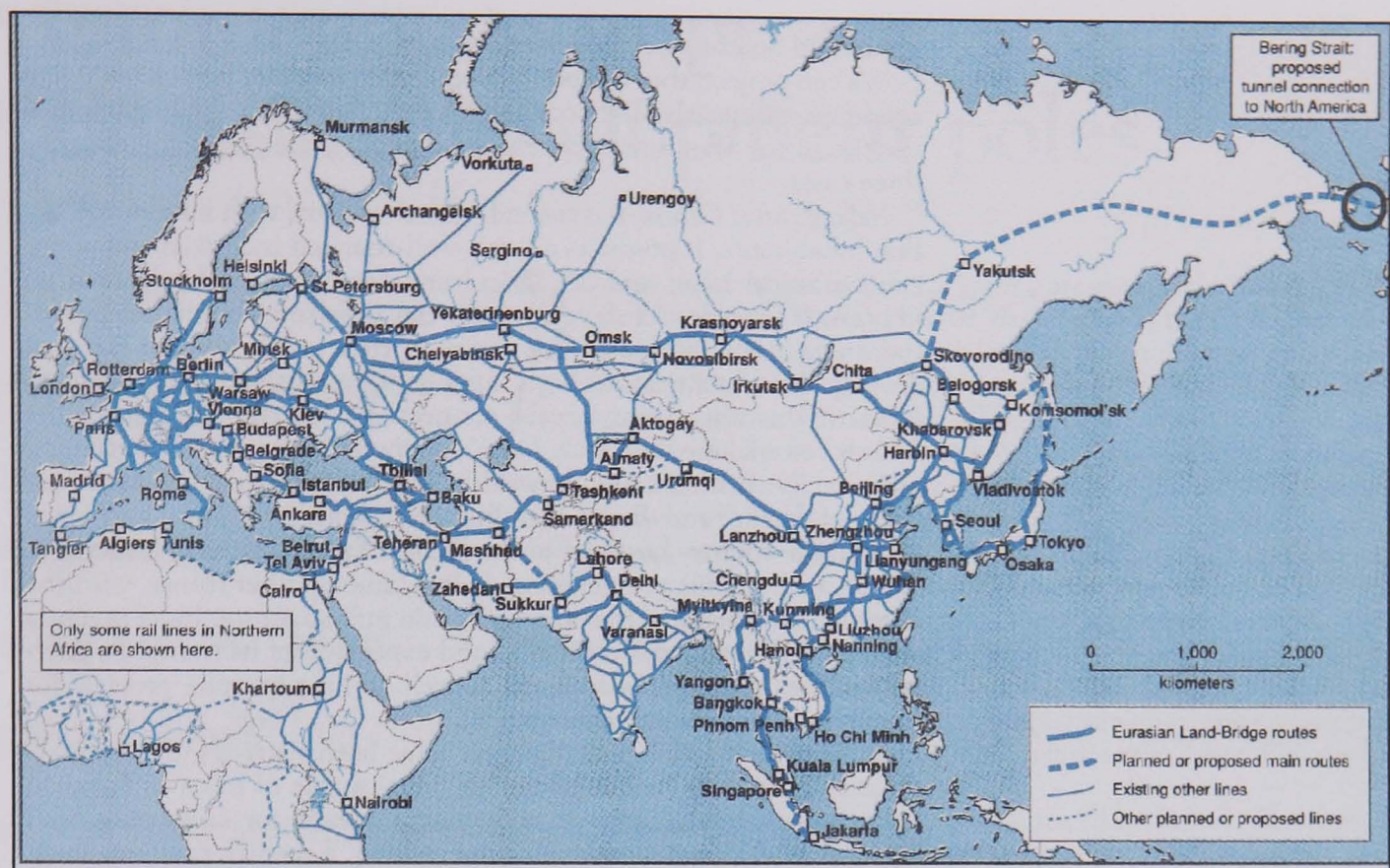
¹¹⁹ International Railway Journal, (2000), ‘UIC Develops Six Global Freight Corridors’, February.

¹²⁰ European Conference of Ministers of Transport, (2000), ‘Integration of European Inland Transport Markets’, pp. 65, Paris.

¹²¹ International Railway Journal, (2000), ‘UIC Develops Six Global Freight Corridors’, February.

Figure 2.4

The Six Global Freight Corridors: The Euro-Asian Corridors



Source: Tennenbaum, J., Executive Intelligence Review, (1997), 'The Eurasian Land-Bridge', Published by EIR News Service, Inc., Washington, USA.

All these corridors were planned in order to achieve a number of aims, which will have a considerable influence on the transport sector globally. For example, a priority of the whole project is to create a suitable environment for establishing international freight operations among independent operating companies with a shareholding structure, comprising national railways, shipping lines and major forwarders¹²².

Moreover, according to the ECMT:

*'The Euro-Asian land-bridge corridors constitute both a potentially highly efficient and competitive means of access for Europe to the markets of Central, East and South Asia and a powerful instrument to promote integrated economic development for the entire Euro-Asian economic space'*¹²³.

¹²² International Railway Journal, (2000), 'UIC Develops Six Global Freight Corridors', February.

¹²³ European Conference of Ministers of Transport, (2000), 'Integration of European Inland Transport Markets' pp. 65, Paris.

Another advantage of the Euro-Asian project is the fact that these new corridors will give greater access to major cities in Asia via rail and stimulate their economic activity¹²⁴.

The importance of the increasing influence that Asia will have on the European economy implies that any existing or further transport infrastructure developments would have to take into account the Euro-Asian land bridge¹²⁵. Moreover, the Euro-Asia project aims to support other corridors that are important to the Euro-Asian route, such as the Trans European Networks (TEN's).

The European Union decided in Crete in 1994 and Helsinki in 1997, to create a high standard road and rail network that connects all parts of Europe (TEN), in an attempt to improve Europe's inland transport, create an equally competitive environment among European countries and increase environmental awareness.

There are ten Pan-European Corridors designed on the territory of Central and Eastern Europe and which can be used in conjunction with the Euro-Asian Corridors (see Figure 2.5).

More specifically, the most important Pan-European Corridors for the Euro-Asian routes are¹²⁶:

- ♦ Corridor no. 2: Berlin-Warsaw-Minsk-Moscow-Nizhny Novgorod.
- ♦ Corridor no. 3: Berlin/Drasden-Wroclaw-Katowice-Krakow-Lviv-Kiev.
- ♦ Corridor no. 4: Berlin-Prague-Budapest-Costanta-Sofia-Thessaloniki/Instabul.
- ♦ Corridor no. 5: Venice-Trieste/Koper-Ljubljiana-Budapest-Uzgorod-Lviv-Kiev.
- ♦ Corridor no. 9: Helsinki-St.Petersburg-Kiev-Chisinau-Budapest-Dimitrovgad-Alexadroupoli.

¹²⁴ European Conference of Ministers of Transport, (2000), 'Integration of European Inland Transport Markets', Paris.

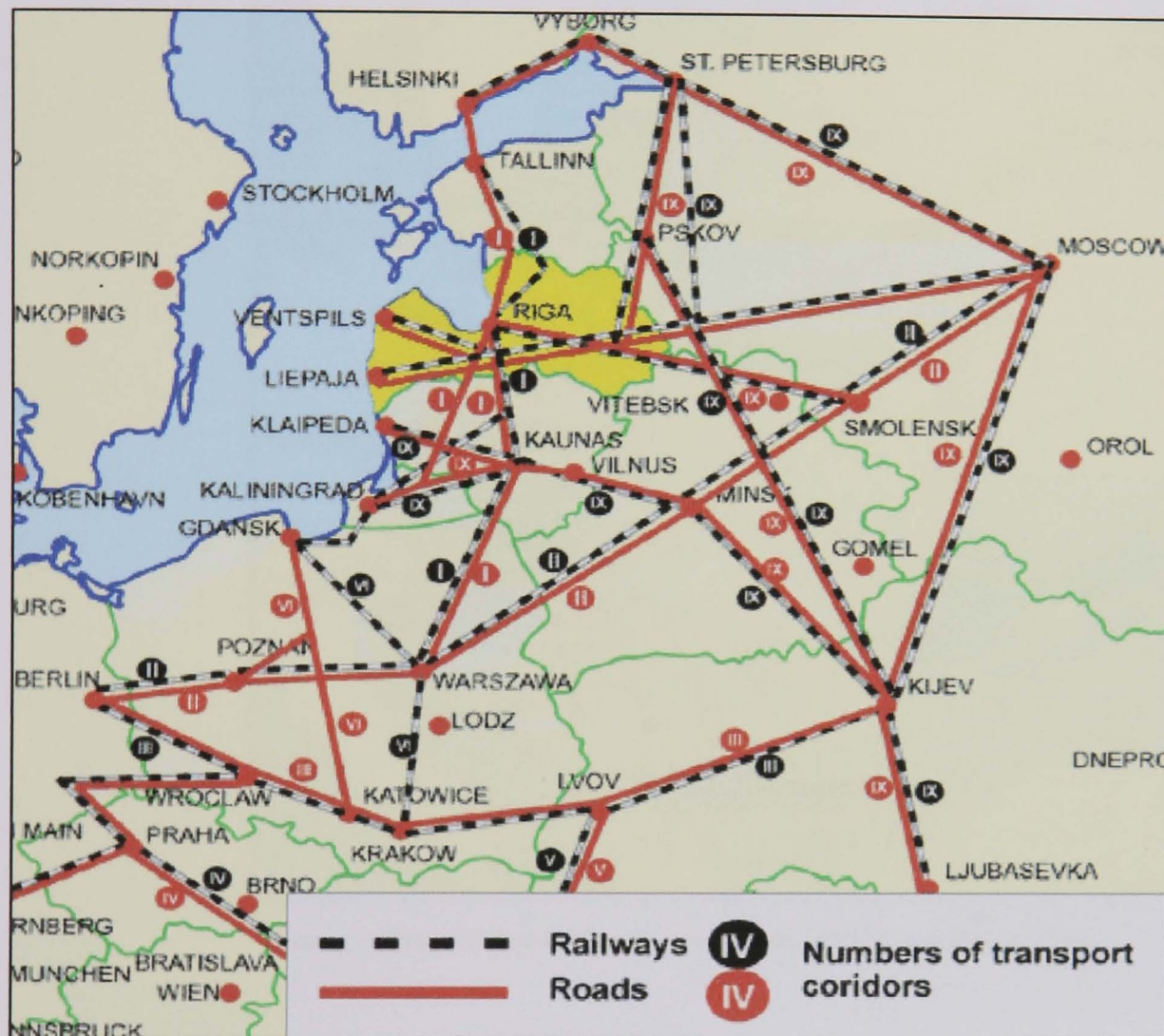
¹²⁵ <http://www.unescap.org/tctd/tar/ncorridor.htm>.

¹²⁶ <http://www.bulletin.rec.org/bull103/corridors.html>

This Corridor No. 9 has a branch connecting all the cities above via a junction in Kiev to Minsk-Vilnius (Lithuania)-Kaunas (Lithuania)-Klaipeda (Lithuania)-Kaliningrand (Russia). This can be seen clearly in Figure 2.6.

Figure 2.5

The Trans European Networks



Source: <http://www.lt>

These corridors link into the following Europe-Asian routes:

I Trans Siberian Railway

Europe (Pan European Transport Corridors 2,3 and 9)- Russian Federation-Korean Peninsula-Japan (over sea)- with to branches from the Russian Federation to¹²⁷:

¹²⁷ Second International Euro-Asian Conference on Transport, September, (2000), St. Petersburg.

- ♦ Kazakhstan-China
- ♦ Mongolia-China

Figure 2.6

The Trans European Networks



Source: <http://www.bulletin.rec.org/bull103/corridors.html>

II TRACECA (Transport Corridor Europe-Caucasus-Asia)

- ♦ Eastern Europe (Pan European Transport Corridors 4,7,8,9) – across Black Sea – Caucasus – across Caspian Sea – Central Asia.

China is a vital part of the Euro-Asian project as one can see from the first two Euro-Asian corridors, where in the first corridor the rail line runs from the Eastern Chinese port of

Lianyungang via Central and North-West China into Kazakhstan and from there through Russia (TSR) to Europe¹²⁸.

However, the Trans Siberian Railway is not only the backbone of the East-West International Corridor 1, but also the lifeline of Euro-Asian Corridor 6, between North America and Europe. This transit corridor would cut 1,000 miles off the distance for cargo moving between the North-East Chinese area and the USA West coast¹²⁹. The Russian government has agreed to the Chinese and USA proposal to authorize and expedite Chinese-USA cargo flow through the Russian Pacific ports of Vladivostok and Vostochny¹³⁰. This is due to two reasons. The first is the fact that there is a significant imbalance of trade between China and USA, with continuous growing volumes from China, which causes severe shortages of empty containers in Chinese ports¹³¹. This basically means that the Chinese port infrastructure cannot cope with the growth in the Chinese-USA trade¹³². And the second reason is that according to exporters:

‘The sailing times for both feeder and deep sea shipping services to Russian Far Eastern ports would be shorter than via North East China ports, like Dalian, thus making the new route in Russia more cost and time efficient’¹³³.

Subsequently, this will have a positive effect on the economic future for Russia as a bridge between West USA coast /Asia and Europe¹³⁴. Likewise, the Trans Siberian Railway is expected to demonstrate its capability as a commercially viable transport link from Europe to Asia. Hence, as the ECMT indicates, the importance of the Trans Siberian Railway can be expected to grow again in the future¹³⁵.

¹²⁸ European Conference of Ministers of Transport, (2000), ‘Integration of European Inland Transport Markets’, Paris.

¹²⁹ Lloyd’s List, (2001), ‘Russia and US Agree on Chinese Cargo Plan’, June.

¹³⁰ Murno, R., Secretary of State for Washington State, USA, (2000), ‘East by West Corridor project’.

¹³¹ Murno, R., Secretary of State for Washington State, USA, (2000), ‘East by West Corridor project’.

¹³² Lloyd’s List, (2001), ‘Russia and US Agree on Chinese Cargo Plan’, June.

¹³³ Lloyd’s List, (2001), ‘Russia and US agree on Chinese cargo Plan’, June.

¹³⁴ <http://www.unescap.org/tctd/tar/ncorridor.htm>.

¹³⁵ European Conference of Ministers of Transport, (2000), ‘Integration of European Inland Transport Markets’, Paris.

2.4.2 The Inter-Korean/TSR project

The Korean peninsula occupies a very important geopolitical position in the transport network of North-East Asia¹³⁶. By 1945 a long military and political confrontation between North and South Korea led to the territorial division of the two nations, ending any form of communication including transport¹³⁷. When the Demilitarized Zone (DMZ) was established across the middle of the Korean peninsula following the Korean War, the Kyongui Line that extended 46 kilometers between Seoul and Moonsan, became the symbol of national division¹³⁸ (Figure 2.7).

Figure 2.7

Inter-Korean Rail Links



Source: http://www2.gol.com/users/coynerhm/why_interKorea_rail.htm.

Nevertheless, in June 2000 the leaders of the two nations agreed to restore the Kyongui railroad line linking Seoul and Shinuiju (See Figure 2.7) that would eventually lead to the construction of the proposed international railway that would link East Asia with Europe, via the Trans Siberian Railway¹³⁹. Moreover, the agreement to re-establish the damaged rail link along Korea's Western coast and through the Demilitarized Zone (DMZ) is a part of a greater effort to integrate and upgrade the transport infrastructure between North and South Korea¹⁴⁰.

¹³⁶ <http://www.dailynews.muzi.com/ll/english/89658.shtml>.

¹³⁷ Dawn Group, (2000), 'South Korea Starts Work on Rail Link with North', September 19.

¹³⁸ http://www.news.bbc.co.uk/hi/english/world/asia-pacific/newsid_928000/928499.stm.

¹³⁹ Myong-Sop, P. and Tae-Yong K., (1996), 'A Plan for Co-operation in Transport between South and North Korea', *Transport Reviews*, Vol. 16, No. 3, pp. 225-241.

¹⁴⁰ Port Development International, (2001), 'East Asia: Rebuilding Bridges', May.

In addition, other plans adopted by the two Koreas include the connection of Seoul in South Korea to Shinuiju in the North and from there to the Trans-China Railway (TCR)¹⁴¹. Likewise, according to the same plans the Kyongon Line will link the Cities of Mokro in the very South of the Korean peninsula, and Seoul, to the North Korean cities of Wonsan and Najin, and from there to the Trans Siberian Railway, most commonly referred as the Tumen Project' (See figure 2.7) ¹⁴².

It is expected that the new Inter-Korean rail link will change the nature of trade in the region, including: economic co-operation in the reunified Korea which will lead to an increase of the quantity of goods that have to be transported, an increase in the use of the transport network, and the reduction of transportation costs¹⁴³. Also, another part of these plans is to provide better harbor facilities and high speed rail lines that connect the port of Pusan in the South-East with Shinuiju in the North-West, as well as Mokro in the South-West with Ranjin in the North-East¹⁴⁴.

These would connect in the North with the Trans Siberian and Trans China Railways (Figure 2.8), and in the South with South-East Asian shipping routes and a potential undersea rail line from Japan to Pusan (see Figure 2.7)¹⁴⁵. More importantly, the new rail link is intended to dramatically cut shipping time between North-East Asia and Europe¹⁴⁶.

¹⁴¹ The Economist, (1998), 'Tumen River Project', June.

¹⁴² Pravda, (2001), 'North-Korean Railroad to Be Modernised and Linked with Trans Siberian Railway', September.

¹⁴³ Myong-Sop, P., and Tae-Yong., K., , (1996), 'A plan for co-operation in transport between South and North Korea', Transport Reviews, Vol. 16, No. 3, pp. 225-241.

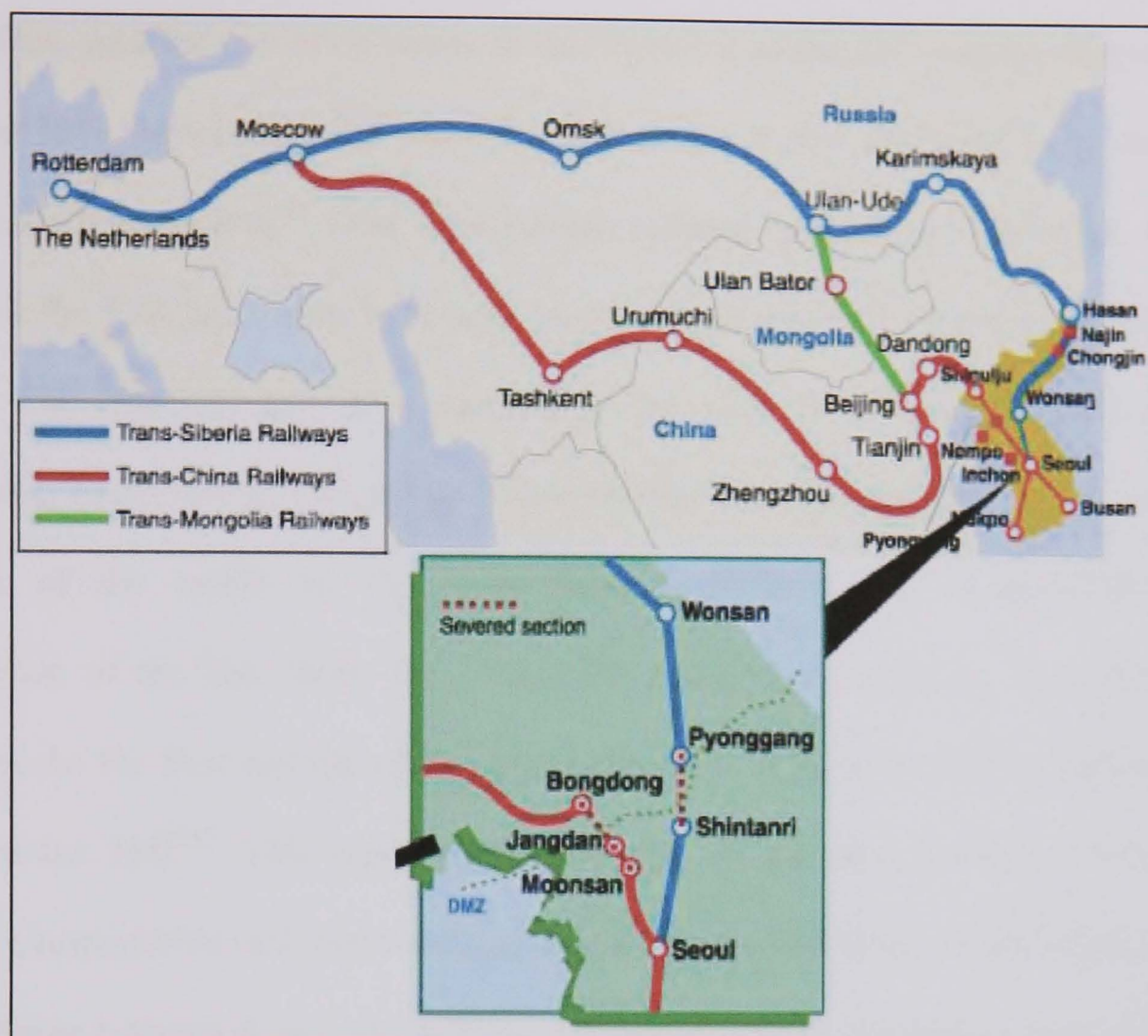
¹⁴⁴ ITAR-TASS, (2001), 'Seoul pushes for Siberia Rail route to Europe', January.

¹⁴⁵ Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, Published by EIR News Service Inc., Washington, USA.

¹⁴⁶ Journal of Commerce, (2000), 'Restored Korea Rail Expected to Slash European Freight Costs', September.

Figure 2.8

Inter-Korean Rail Links with Other Major Railways



Source: http://www.kt-i.com/nov_dec_00/economy/coverstory/coverstory.htm

However, according to experts, the real beneficiary in this will be Russia¹⁴⁷. This notion is based on the fact that the prospect of Russia serving as a land bridge from East Asia to Europe offers remarkable economic possibilities¹⁴⁸. In addition, the latest president of Russia has repeatedly announced his intentions to focus on Asia, and concentrate on building up the deteriorated economic infrastructure of the Far East¹⁴⁹. At present most cargo exchanged between North-East Asia and Europe is transported by sea. The railway network has lost its competitive edge to sea transportation because of the continued low pricing of oil in the 1990's¹⁵⁰. Other factors include the reduction of sea tariffs for the route

¹⁴⁷ http://www2.gol.com/users/coynerhm/why_interKorea_rail.htm.

¹⁴⁸ Korean Times, (2001), 'Moscow Close to Deal on Rail Link', March.

¹⁴⁹ ITAR-TASS, (2001), 'Putin Calls for Euro-Asian Transport Corridor', February.

¹⁵⁰ http://www.kt-i.com/nov_dec_00/economy/coverstory/coverstory.htm

between the Far East and Europe and the expenses and delays on the Trans Siberian Railway due to the factors mentioned earlier in this chapter.

Nevertheless, with the rise of oil prices at the beginning of the 21st century, shippers across the region have increasingly felt the need to look for a new logistical route that would replace sea transportation¹⁵¹. The Inter-Korean railroad connecting North-East Asia with Europe via the TSR has started to be seen as a viable alternative¹⁵². As one can understand, although the TSR had lost its reputation in the past, in 1994 the formation of the International Coordinating Council on Trans Siberian Transportation (CCTST), led to the reduction of the tariffs on the Trans Siberian Railway, and development of the infrastructure of the line. Since then, the TSR managed to regain its reputation among shippers in the Far East and this can be seen in the light of the new projects that encourage the use of the TSR¹⁵³. This way the Japanese shippers can save between 10 to 15% on overland transportation to Europe and cut weeks off transport times, while freight rates and shipping times between Korea and Europe are expected to be reduced to three-fifths those of sea transportation¹⁵⁴.

2.4.3 The Russia-Alaska Project

The Asian part of Russia, consisting of Siberia and the Far East region, occupies about 13 million square kilometers, nearly one third of the area of Asia¹⁵⁵. In addition, it is one of the richest areas in the world in natural resources, including gas, oil and coal, but hardly populated and characterized mainly by adverse climatic conditions, Siberia and the Far East are a serious challenge to any plans for the development of Russia (Siberia) and Euro-Asian as a whole¹⁵⁶.

¹⁵¹ http://www.kt-i.com/nov_dec_00/economy/coverstory/coverstory.htm

¹⁵² http://www2.gol.com/users/coynerhm/why_interKorea_rail.htm.

¹⁵³ http://www.kt-i.com/nov_dec_00/economy/coverstory/coverstory.htm

¹⁵⁴ http://www.kt-i.com/nov_dec_00/economy/coverstory/coverstory.htm

¹⁵⁵ Poponin, V., I., (1978), 'Some Data on Changes in Transport Accessibility of East Siberia and the Soviet Far East in Connection of the BAM', Soviet Geography, Vol. XIX, No. 7, pp. 470-474.

¹⁵⁶ Kibal'Chich, O., A., (1976), 'The Baykal-Amur Mainline and the Integrated Economic Development of the Eastern Regions of the USSR', Soviet Geography, Vol. XVII, No. 6, pp. 384-393.

In the past, during the Soviet era, any effort to develop a real industrial and infrastructure development in Siberia was usually dominated by either military related activities or raw material activities¹⁵⁷. Hence, except the Trans Siberian Railway, which became the backbone of the economy of the Asian part of the Soviet Union, any other economic activity did not blossom¹⁵⁸.

In the post-war Soviet Union the largest project designed, was the construction of the Baikal-Amur Mainline (BAM), which aimed to access the rich mineral deposits North of the Trans Siberian Railway, encourage settlement of population along the Mainline, and develop industrial activities; but had a limited success¹⁵⁹.

Nevertheless, according to experts:

‘Building up a dense infrastructure development corridor along the Trans Siberian Railroad (and certain parallel East-West routes, including the BAM) is the key to the economic future of Siberia, and the Far East of Russia, as well as Russia as a whole’¹⁶⁰.

There are two projects announced that aim to stimulate the development of the entire Eastern Siberia and the Far Eastern region of Russia, and that can be achieved by establishing direct land connections to Japan and the United States¹⁶¹. If these projects are completed then it is expected to bring an evolution in trade and development in the entire Pacific region¹⁶².

¹⁵⁷ Bunich, P., G., (1975), ‘The BAM and the Economic Development of the Soviet Far East’, Soviet Geography, Vol. XVI, No. 10, pp. 643-652.

¹⁵⁸ <http://www.bartleby.com/65/tr/TransSib.html>.

¹⁵⁹ Mote, V., L., (1990), ‘Analysis of a Railways Past, Present and Future’, Soviet Geography, Vol. XXXI, No. 5, pp. 321-331, May.

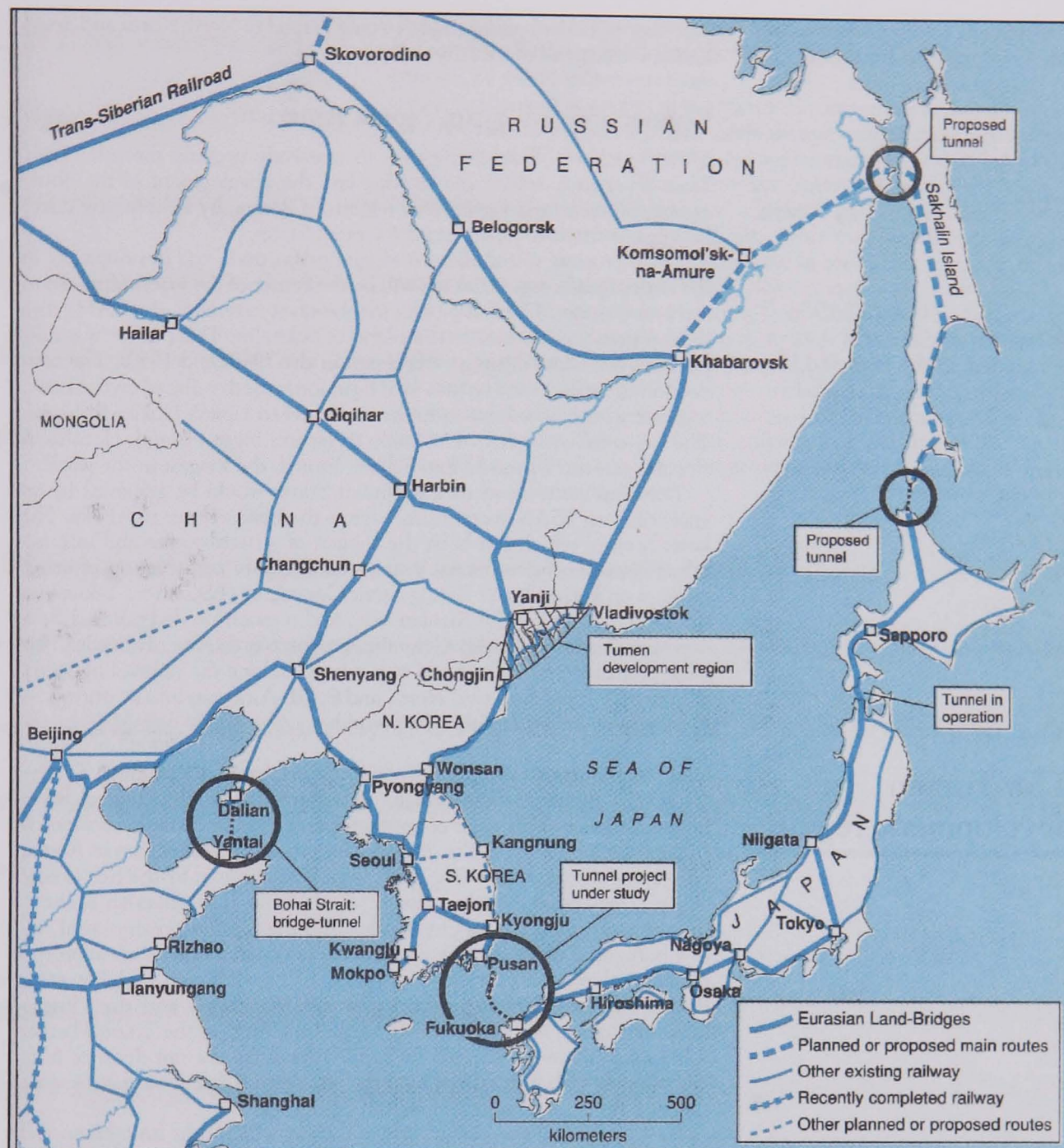
¹⁶⁰ Tennenbaum, J., (1997), ‘The Eurasian Land-Bridge’, Executive Intelligence Review, pp. 168, , Published by EIR News Service Inc., Washington, USA.

¹⁶¹ <http://www.cerc.unimelb.edu.au/bulletin.01apr.htm>.

¹⁶² <http://www.russianalitica.com/theysay/0201/008.shtml>.

Figure 2.9

The Connection of the TSR to Japan and Vice Versa Via Sakhalin Island



Source: Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, Published by EIR News Service Inc., Washington, USA.

The first project involves extending the BAM, via a short tunnel connection to the island of Sakhalin (See Figure 2.9). In addition, the connection to Japan would be established by constructing a South-North rail line on Sakhalin, along with a 50 kilometers undersea tunnel to Hokkaido Island (Japan)¹⁶³. From there is a 54 kilometers rail connection (Seikan Tunnel) to Japan's biggest island, Honshu.

¹⁶³ Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, Published by EIR News Service Inc., Washington, USA.

This project was initially planned as early as the 1930's when the Soviet Union and Japan decided to connect Sakhalin Island with Russia's mainland and Japan¹⁶⁴. The implementation of the project was initiated in the pre-war years. However, the war interrupted the construction of the BAM-Sakhalin connection from taking place, and the project was forgotten¹⁶⁵. Nevertheless, in 1979, the project was revived by the USSR adding to the existing plans and the construction of the tunnel connecting Sakhalin to Japan¹⁶⁶. In the years to follow Russia and Japan signed an agreement based on which both sides will jointly develop the oil and gas fields allocated in Sakhalin, based on a sharing principle¹⁶⁷.

Sakhalin Island is very important for the whole region because it is the only oil-gas region in the Far East¹⁶⁸. This means that connecting the Island with Russia and Japan would give access to minerals that can generate tremendous financial income and create a transport corridor that would redistribute global cargo flows, reduce transport time and transport costs¹⁶⁹.

The second project provides a land connection to the United States by an approximately 85 kilometers tunnel across the Bering Strait to Alaska (See Figure 2.10)¹⁷⁰. This project has been the subject of serious studies and international discussions for over a decade. Either side of the Bering Strait is very remote and hardly developed¹⁷¹.

On the USA side there is the need for the construction of a railroad connecting Northern Alaska to British Columbia on the North American side and another one connecting

¹⁶⁴ http://www.segodnya.spb.rus.net/3-4-00/eng/005_e.htm.

¹⁶⁵ http://www.segodnya.spb.rus.net/3-4-00/eng/005_e.htm.

¹⁶⁶ Shapoval, Vladimir, First Deputy Governor of the Sakhalin Region, (2001), 'Important for the whole of Russia', Russia.

¹⁶⁷ Mkrtchyan, Y., Ph.D. in Technical Science, (2001), 'Moving from words to needs', University of St. Petersburg, Russia.

¹⁶⁸ Mkrtchyan, Y., Ph.D. in Technical Science, (2001), 'Moving from words to needs', University of St. Petersburg, Russia.

¹⁶⁹ <http://www.russianalitica.com/theysay/0201/008.shtml>.

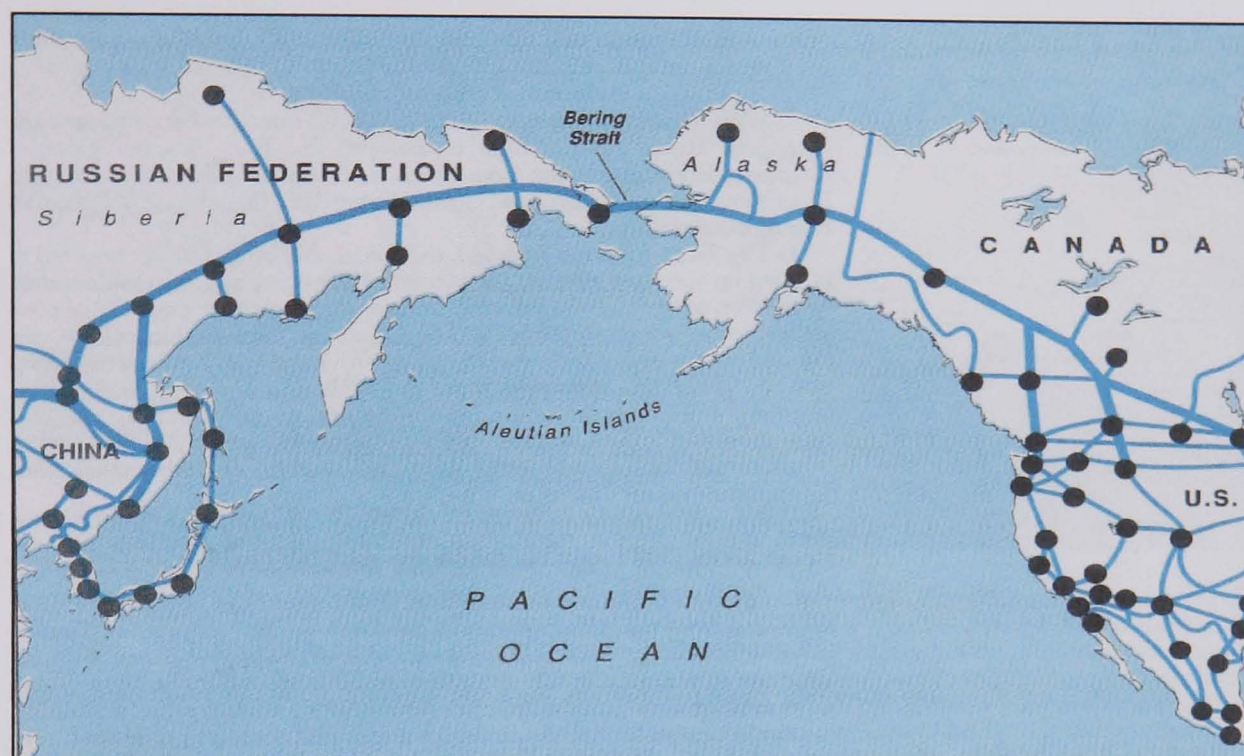
¹⁷⁰ Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, Published by EIR News Service Inc., Washington, USA.

¹⁷¹ <http://www.in.infoplease.com/ce6/world/A0806548.html>.

Northern Alaska to Canada¹⁷². On the Russian side there is a much-needed railroad connecting BAM to the Bering Strait¹⁷³.

Figure 2.10

The Bering Strait Project Between Russia and Alaska



Source: Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, Published by EIR News Service Inc., Washington, USA.

Although the Siberian region is one of the poorest in Russia it has vast unexploited reserves of oil, coal, gold, diamonds, silver, zinc and other rare earth elements¹⁷⁴. The exploitation of these resources can put Russia among the world's richest countries¹⁷⁵. Similarly, this project would be an important step towards linking the rail networks of Europe, Africa, Asia, and North America and Canada into a continuous global rail system¹⁷⁶ (Figure 2.11).

¹⁷² <http://www.news.bbc.co.uk/1/hi/world/europe/1099304.stm>

¹⁷³ <http://www.news.bbc.co.uk/1/hi/world/europe/1099304.stm>

¹⁷⁴ <http://www.amcham.ru/wp/fareast1.htm>

¹⁷⁵ <http://www.amcham.ru/wp/fareast1.htm>

¹⁷⁶ Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, Published by EIR News Service Inc., Washington, USA.

Figure 2.11

The Bering Strait Project in a Wider Context



Source: Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, Published by EIR News Service Inc., Washington, USA.

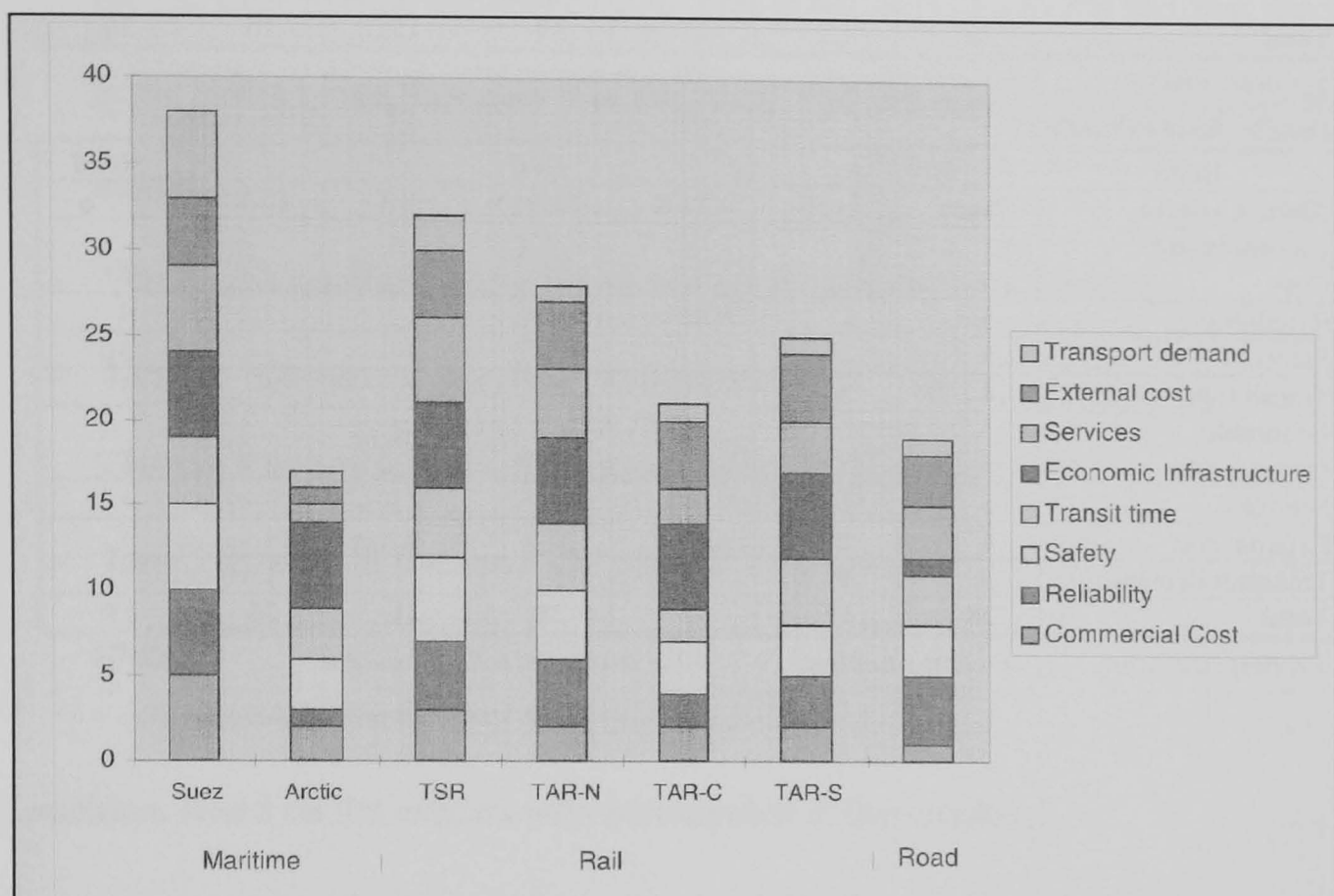
2.5 Conclusion

Concluding this chapter, it would be interesting to present briefly research conducted in 1999 by PLANCO consulting GmbH on behalf of the ECMT. This was a qualitative assessment of the main competing routes in the European – Far East region. The aim of this research was to evaluate the different routes and present a fair impression of the overall strengths and weaknesses of the modes of transport and the routes. The research included 19 interviews with experts in the region as well as the co-operation with major maritime operators like Sea-land/Maersk and P&O Nedlloyd.

Figure 2.12 provides a summary evaluation of different transport routes and modes that transfer goods between Europe and Far East.

Figure 2.12

Summary Evaluation of Different Transport Routes/Modes Between Europe-Far East



Source: European Conference of Ministers of Transport, (2000), 'Integration of European Inland Transport Markets'. Paris, pp. 59.

The maritime routes included in this research were, the Suez Canal route and the Northern (Arctic) route, whereas, the rail routes included, the Trans Siberian Railway, the Trans-Asian Railway (Northern)(TAR-N) and the Trans-Asian Railway (Central) (TAR-C)¹⁷⁷ and the Trans-Asian Railway (Southern) (TAR-S)¹⁷⁸. The road route has not been specified. The number 40 on the vertical axis represents the maximum total attainable (best situation).

¹⁷⁷ A variation on TAR-N avoids the TSR completely, traversing Kazakhstan north of the Aral Sea to enter Western Europe via Ukraine as well as Russia. (ECMT, (2000), pp. 48).

¹⁷⁸ This railway drives through other central Asian countries into Iran, and then into Turkey towards the Mediterranean and Black sea. . (ECMT, (2000), pp. 49).

The results of this research have shown that¹⁷⁹:

- ♦ The maritime route via the Suez Canal is and will continue to be the optimum mode for Far East/Europe container trade. This is not only due to the fact that the sea route is the safest route, but also it is the route that can carry more containers than other modes.
- ♦ The Arctic maritime route is and will continue to be worst placed.
- ♦ Despite substantial potential improvement in TAR-N, TAR-S, TAR-C, the Trans Siberian Railway is and will continue to be the best rail option.
- ♦ Improvements in the road still place it only marginally ahead of the Arctic maritime route.

In addition, based on the experts who participated in this research:

‘The shipping lines which are trying to develop overland rail options tend to start where the existing system is best and develop from there. They are not really interested in road, but in the potential saving of using very long rail carriage across the Asian land mass. However, other than the Trans Siberian Railway they have so far found no practicable opportunities at all’¹⁸⁰.

Summarizing all the issues related to the TSR in this chapter, one can see that apart from some inefficiencies which occurred in the past, commonly associated with the Soviet regime, the Trans Siberian Railway route offers much potential. All the projects presented so far place Russia and the Trans Siberian Railway as the backbone of a number of vitally important international corridors between Europe, Asia and the Pacific Region.

¹⁷⁹ European Conference of Ministers of Transport, (2000), ‘Integration of European Inland Transport Markets’. Paris, pp. 59.

¹⁸⁰ European Conference of Ministers of Transport, (2000), ‘Integration of European Inland Transport Markets’. Paris, pp. 56.

However, prior to examining the potential of the Baltic States in competing for containers moving via the TSR, it is important to present a brief overview of the Baltic States, in order for one to understand the economic and transport foundations which each one of these States stands on since they have become independent.

CHAPTER THREE

THE BALTIC STATES

3.1 Introduction

Since re-establishing their independence, the Baltic States of Estonia, Latvia and Lithuania have come across many economic and political difficulties. Suddenly after all these years under the absolute control of a communist largely self-sufficient Union, the Baltic States were exposed to an open and highly competitive market with little capital available¹. Their economies also suffered from a serious depression with drastically declining production, falling wages and high inflation². Each one of these countries has gone through different stages in their development since their declaration as independent states in August 1991³. However, all three have managed to steer their economies away from dependence on Russia and develop in all sectors, especially in trade. In their first years of independence the three newly formed states started off by reconstructing their economies and emphasising the importance of the role of transportation as a part of economic development⁴. Since the ultimate purpose of this research is to analyse the potential of the Baltic States as transit gateways for the shipment of containers moving via the Trans Siberian Railway, each one of them will be introduced individually with a short overview of their economy, the process of privatisation and their transport sector.

¹ Lijewski, T., (1996), 'The Impact of Political Changes on Transport in Central and Eastern Europe', *Transport Reviews*, Vol. 16, No. 1, pp. 37-53.

² Fairplay, (1993), 'Baltic States On the Edge', November 4.

³ http://www.europarl.eu.int/enlargement/briefings/8a2_en.htm

⁴ Gros, D., Steinherr, A., (1995), 'Economic Transition in Central and Eastern Europe', Published by Longman, London.

Figure 3.1

The Map of Europe



Source: <http://www.lib.utexas.edu>

3.2 Estonia

3.2.1 Economy

Estonia is an Eastern Europe country, which lies on the eastern shores of the Baltic Sea, bordering the Baltic Sea and the Gulf of Finland, between Latvia and Russia (Figure 3.1).

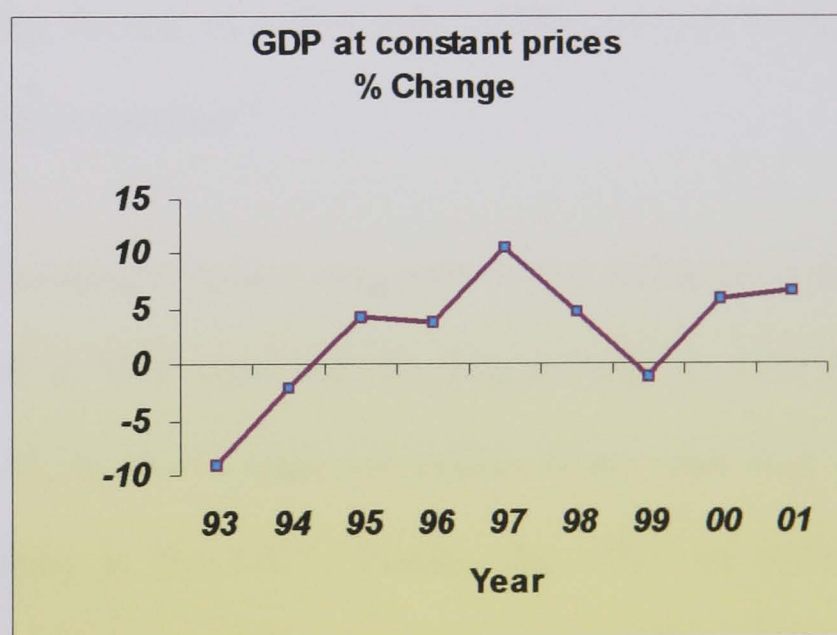
Upon re-establishing independence, Estonia tried to become the gateway between East and West by pursuing economic reforms and integration with the West⁵. By early 1992, the government decided to introduce policy measures to help transition to a market economy.

More specifically, they freed most prices and encouraged privatisation and foreign investment far earlier than any other independent state in the Eastern bloc⁶. Moreover, the adaptation of economic and financial policies that included an open tariff-free trade policy, a balanced budget, full convertibility for current and capital account transactions, flat-rate income tax and friendly

environment for foreign investment, helped Estonia to achieve the most impressive rates of growth despite being the smallest country in terms of population and size⁷. In the years to follow, Estonia's market reforms put it among the economic pioneers in the former CMEA region moving rapidly from the old communist Soviet structures by adopting monetary reforms and privatising state companies for cash to strategic investors⁸.

Figure 3.2

Estonia's GDP From 1993 to 2001



Source 1: European Bank for Reconstruction and Development (EBRD), 2001.

Source 2: <http://www.mac.gov/CEEBIC>

⁵ Estrin, S., (1994), 'Privatisation in Central & Eastern Europe', Published by Longman, London.

⁶ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd, London.

⁷ Lloyd's Shipping Economist, (1996), 'Seeking Economic Credibility', May.

⁸ <http://www.tradeport.org/ts/countries/estonia/bnotes.html>

As one can see in Figure 3.2, despite looking at the negative growth of 1999 which resulted from the Russian economic crisis in 1998, Estonia's GDP has grown since then reaching up to 6.5% in 2001⁹. This growth has being led mainly by foreign investments, privatisation and the recovery of foreign trade. In addition, based on estimates from the EBRD, in the absence of any adverse exogenous factors, the economy is likely to grow even more in the years to follow.

3.2.2 Privatisation

Estonia has also made excellent progress with regards to structural adjustment. Industrial production has increased and by 1997, 90% of the small and large-scale privatisation was completed¹⁰. One should be aware of the importance of the private sector's contribution to Estonia's GDP. More specifically, based on data provided by the EBRD, the private sector contribution to GDP is now estimated to be above 75%¹¹. In the year 2000 the Estonian government focused on the reconstruction and privatisation of some of the remaining state transport and utility enterprises, including the sale of a 49% stake of Narva Power and the sale of a 66% stake of the largest rail freight operator¹².

Within the same year the largest rail passenger service was sold to GB Railways (UK). Likewise, Finnish companies acquired a 58% stake of the largest bank in Estonia. Furthermore, in the beginning of 2001, a 50.4% stake of Tallinn Water was sold to International Water and United Utilities in the UK¹³. Finally, the effect of market liberalisation led to the implementation of a new telecommunications law in line with EU directives and opened fixed-line telephone market to competition¹⁴.

⁹ Data derived by the European Bank for Reconstruction and Development, (2001).

¹⁰ Central and Eastern Europe Business Information Center, (2001).

¹¹ Data derived by the European Bank for Reconstruction and Development, (2001).

¹² Data derived by the European Bank for Reconstruction and Development, (2001).

¹³ Data derived by the European Bank for Reconstruction and Development, (2001).

¹⁴ ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', Published by ECMT.

3.2.3 Trade

Estonia has moved very quickly in redirecting trade from the former Soviet Union to Western markets. Since independence, Estonia has adopted an open market approach to trade with other countries¹⁵. As one can see in Figure 3.3, trade from 1992 onwards started to grow continuously. Even though trade started to recover after the collapse of the Soviet regime, imports tended to

grow faster than exports due to the rapidly expanding demand for consumer goods¹⁶.

Nevertheless the Russian financial crisis of 1998 had affected negatively the economy of Estonia and led

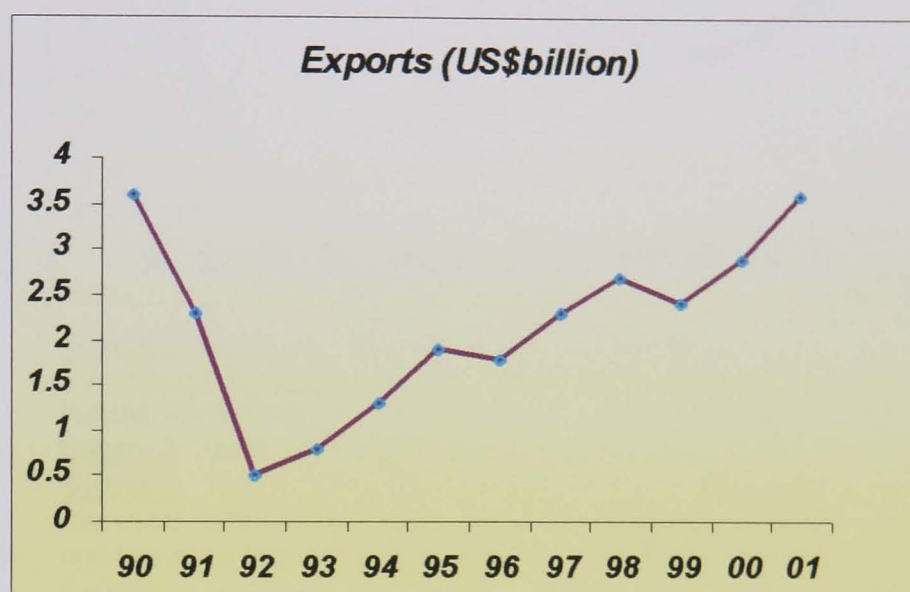
its government to reorientate sharply towards western markets, especially to

Finland and Sweden¹⁷. Estonia has introduced since its first years of independence, very liberal commercial legislation and focused on attracting foreign investment.

This was achieved successfully due to the fact that Estonia did not levy customs duties on imports and is essentially a duty-free country with few non-tariff barriers¹⁸. In 1999,

Figure 3.3

Exports for Estonia From 1990 to 2001



Source 1: Brodin, A., (2000), 'Ports in Transition in Countries in transition, pp. 108, Parajett AB Landskrona Publishing, Sweden.

Source 2: EBRD, 2001, January.

Source 3: The EU's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

¹⁵ Buchhofen, E., (1995), 'Transport Infrastructure in the Baltic States During the Transformation to Market Economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 69-75.

¹⁶ Lloyd's Shipping Economist, (1999), 'Full of Eastern Promise', September.

¹⁷ Canfield, J., I., (1993), 'Independent Baltic State Ports: the outlook for commercial viability', Maritime Policy and Management Vol. 20, No. 2. pp. 133-152.

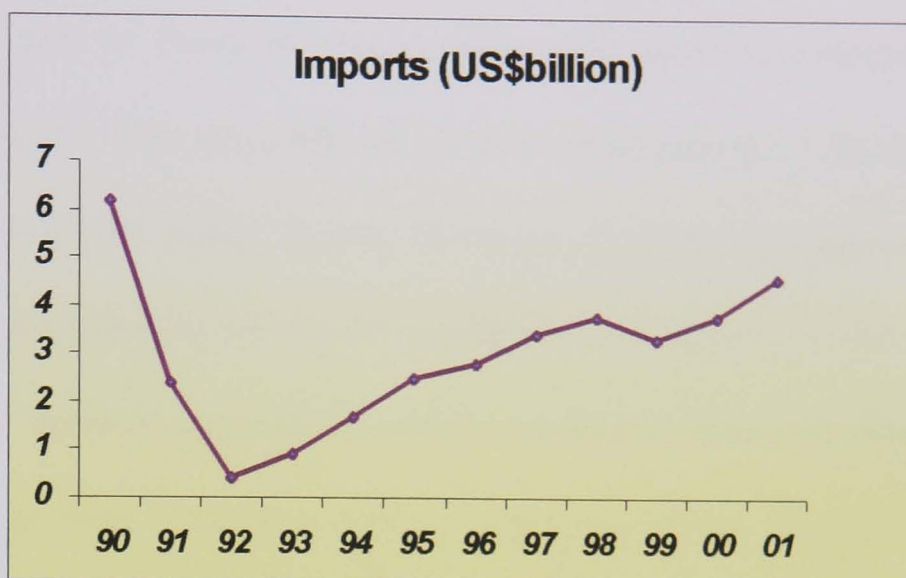
¹⁸ Coface, N., and Kogan, L., (2001), 'Risk: A country -by- Country Guide', 3rd Edition, Published by Page Limited, London.

Estonia became a member of the WTO (World Trade Organization) and committed itself not to raise import duties on goods above maximum levels as set by WTO¹⁹.

However, at the beginning of 2000, Estonia introduced a tariff on agricultural produce and food, which applies to non-European countries within the limits of WTO agreements. In addition, in a move to strengthen trade volumes, Estonia focused in the last 11 years on developing the transport sector and improving the port infrastructure²⁰.

Figure 3.4

Imports for Estonia From 1990 to 2001



Source 1: Brodin, A., (2000), 'Ports in Transition in Countries in transition, pp. 108, Parajett AB Landskrona Publishing, Sweden.

Source 2: EBRD, 2001, January.

Source 3: The EU's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

3.2.4 Transport

The close relationship between trade and transport means that any future developments in the transportation and logistics area in Estonia involves changes concerning trade²¹. In the last ten years, large-scale investment in transportation has been possible due to the influx of foreign capital²². Estonia is an important transit route for Russia in its trade with Western markets. Therefore, by providing its services to Russian companies, Estonia attracted high investment capital for the transport infrastructure²³. At this point one should be aware, that this chapter will only look at the road, rail and sea sectors of transport for each one of the Baltic States, due to the fact that these are the only sectors of transport used

¹⁹ Data derived by the European Bank for Reconstruction and Development, (2001).

²⁰ <http://www.mac.doc.gov/ceebic/investmentprofile/estonia/pdf>

²¹ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

²² Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd.

²³ Seatrade Review, (1996), 'Hitting the Privatisation Trail', April.

for the transit of cargo coming via the Russian Federation, and therefore relevant to this research.

3.2.5 Roads

Since the collapse of the Soviet Union the already poor road infrastructure has suffered a bigger deterioration due to the lack of financial resources and the general preference towards the development of railways²⁴. This inevitably led to slow development of the road networks in Estonia and the rest of the Baltic States. However, Estonia's realignment towards market economies and privatisation led to the availability of foreign capital by private investors and international financial institutions, which resulted in the development of the road networks²⁵. One of the most important road developments is the Via Baltica project, which was put into effect in 1996 funded by the Nordic Investment Bank. The Via Baltica (Figure 3.5) is a road network starting from Helsinki and after crossing the Gulf of Finland, passes via Tallinn (Estonia), Riga (Latvia), and Kaunas (Lithuania), ending in Warsaw (Poland)²⁶.

The purpose of the Via Baltica road network was through harmonization of the existing road sections to create a continuous and identifiable route of Pan-European standards²⁷. The Via Baltica is due to be completed by 2006²⁸.

In addition, there are other main road routes connecting Estonia with Russia (St. Petersburg and Moscow) in the east, and with Latvia in the south. Furthermore, in the last

²⁴Cullinane, K., and Toy, N., (1998), "Planned Road Network Developments in the Baltic Sea Region", *Transportation Reviews*, Vol. 18, No. 1, pp. 35-55.

²⁵ Queiroz, C., (2001) 'Major Trends in the Transport Sector and Impact on the Baltic States', *Trans Baltica 2001 International Conference*, June.

²⁶ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', Published by ECMT.

²⁷ Buchhofer, E., (1995), 'Transport infrastructure in the Baltic States During the Transformation to Market Economies', *Journal of Transport Geography*, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

²⁸ ECMT (European Conference of Ministers of Transport), (1997), 'Which Changes for Transport in the Next Century?' Published by ECMT, October.

few years the infrastructure along the main highways has been improving rapidly and better roads have been built²⁹. This road transport trend can also be:

‘Projected on a international level since the international transit volume and the number of companies operating internationally have increased markedly over the last few years’³⁰.

Figure 3.5

The Via Baltica Road Corridor



Source: Buchhofer, E., (1995), 'Transport infrastructure in the Baltic States During the Transformation to Market Economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 72, Published by Butterworth Heinemann, London.

3.2.6 Railways

As noted earlier, in Estonia during the Soviet period there was a general preference towards the development of rail networks at the expense of other modes of transport. That

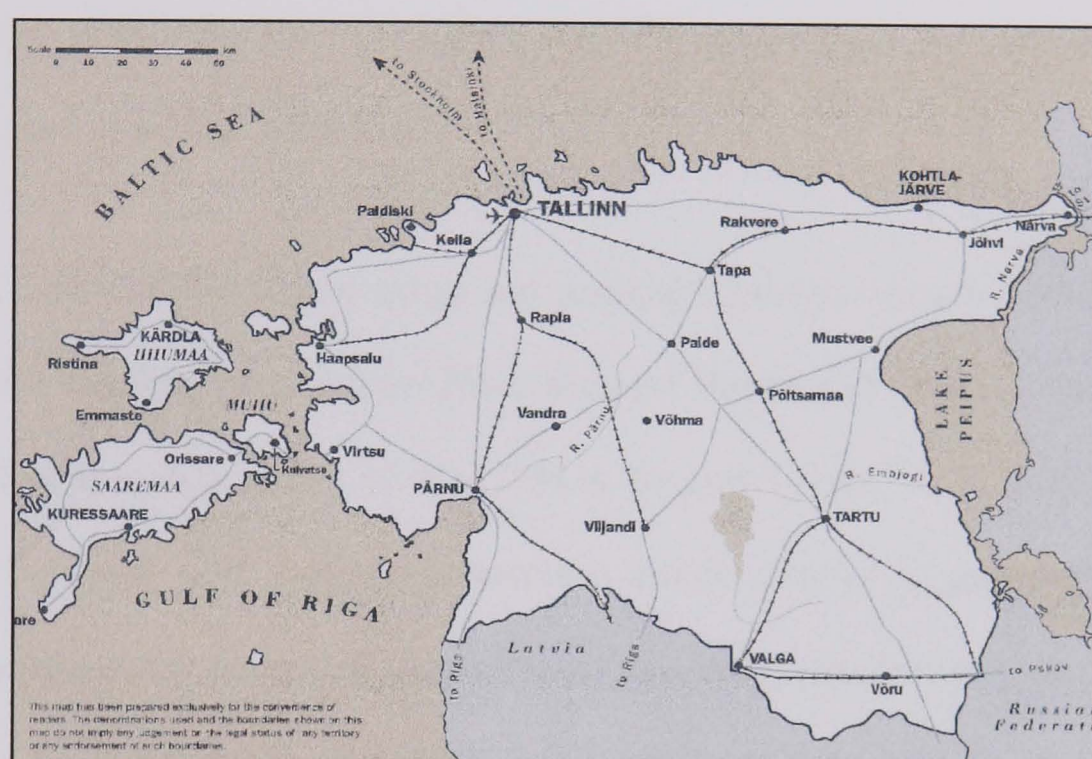
²⁹ Gros, D., and Steinherr, A., (1995), 'Economic Transition in Central and Eastern Europe', Published by Longman, London.

³⁰ <http://www.mac.doc.ceeibic/marketresearch/estonia>

was mainly due to the fact that more than 90% of freight transit through Estonia was by rail, most of which was oil³¹. The total freight carried in 1999 was more than 35 million tonnes, of which 60% was in transit³². Estonia's railway system is directly connected to the Russian railway system due to the fact that they have the same rail gauge, and to other CIS countries. One can see in Figure 3.6 both the rail and road systems in Estonia.

Figure 3.6

The Rail and Road Systems in Estonia



Source: <http://www.mac.doc.gov/ceebic/investmentprofile/estonia/pdf>

Moreover, in 1999 the Estonian government introduced a new Railways Act, which provided for the licensing of railway operators and open access to the national rail network³³. In addition, within the same year both the IFI and the EBRD have invested and loaned money respectively to the Estonian government for the improvement and modernisation of Estonian railways and more specifically for the railway connection

³¹ TranBaltica 2001, VI International Conference, 2001, Riga, Latvia, June 7-8.

³² <http://www.mac.doc.gov/ceebic/investmentprofile/estonia/pdf>

³³ The European Union's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea', Published by Cowiconsult.

between Estonia and Russia³⁴. In 2000 the government moved even further by announcing an international tender for the sale of a 66% stake of AS Estonian Railways to strategic investors³⁵. By the end of the same year the Estonian railways were privatised.

3.2.7 Sea

Estonia's position at the northern position of the Via Baltica makes the provision of an efficient port system essential³⁶. Likewise, ports are important transport modes especially in transit traffic. Based on statistics published by the EBRD an estimated 80% of all the cargo handled by Estonian ports is transit trade between Russia and the EU³⁷. The largest Estonian cargo ports, the Ports of Tallinn and Muuga, provide easy navigational access, deep waters, and good ice conditions³⁸.

The port of Tallinn is the largest cargo and passenger port in Estonia and holds a leading position in the handling of container flows between Russia and Western Europe, and has been expanding at an annual rate of over 20% in the past 3 years³⁹. In addition, the port of Muuga is a free zone port designed to increase transit volumes by granting more flexible customs procedures for companies rendering transit and distribution services⁴⁰. This port is one of the most advanced ports in the Baltic region mainly used as a transshipment port for oil products for Russian crude oil⁴¹. In the last few years the port has attracted continuous investments for the development of its infrastructure, by foreign countries

³⁴ <http://www.mac.doc.gov/ceebic/investmentprofile/estonia/pdf>

³⁵ Seatrade Review, (1996), 'Hitting the Privatisation Trail', April.

³⁶ Buchhofer, E., (1995), 'Transport infrastructure in the Baltic States During the Transformation to Market Economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

³⁷ Data derived by the European Bank for Reconstruction and Development, (2001).

³⁸ Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by the Goteborg University, Sweden.

³⁹ <http://www.mac.doc.gov/ceebic/investmentprofile/estonia/pdf>

⁴⁰ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

⁴¹ Canfield, J., I., (1993), 'Independent Baltic State Ports: the outlook for commercial viability', Maritime Policy and Management Vol. 20, No. 2. pp. 133-152.

including Russia and Denmark⁴². At present there are more than 50 firms, mainly cargo transport companies that operate at Muuga port⁴³.

3.3 Latvia

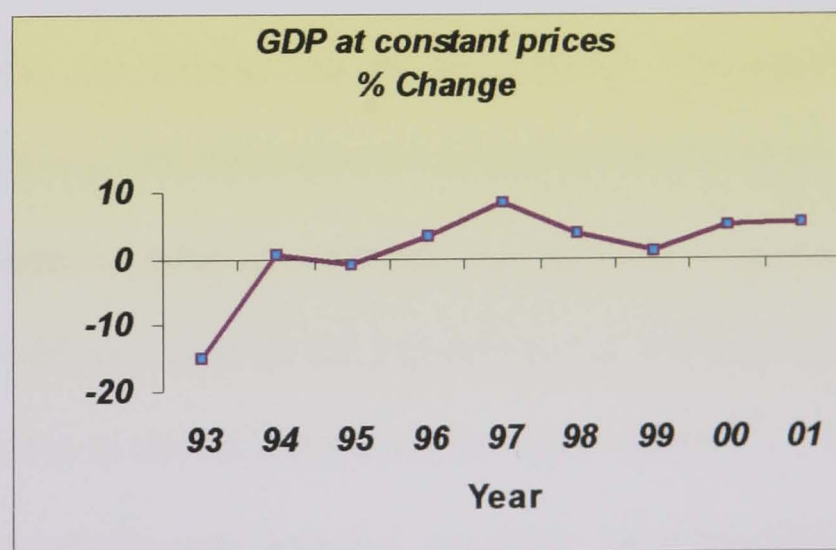
3.3.1 Economy

Latvia is an Eastern European country, bordering the Baltic Sea, between Estonia and Lithuania (Figure 3.7)⁴⁴. Since Latvia declared its independence from the Soviet Union in 1991 the country has rapidly moved towards integration with Western European markets, while carefully maintaining good political relations with the Russian Federation⁴⁵. In 1992 Latvia adopted a comprehensive reform package involving price and trade liberalization and small-scale privatisation.

*'Its freely traded currency, the lat, was introduced in 1993 and has held since then steady or appreciated against major world currencies'*⁴⁶.

Latvia achieved an impressive GDP growth in the years 2000 and 2001, which is likely to be sustained in the years to follow⁴⁷. More analytically, as one can see in Figure 3.7, Latvia's GDP grew from -14.9% in 1993 to 0.6% in 1994 mainly due to the recovery in the light industry and a growth in commerce and finance

Figure 3.7
Latvia's GDP From 1990 to 2001



Source:

<http://www.mac.doc.gov/ceebic/investmentprofile/latvia/pdf>

⁴² Lloyd's Shipping Economist, (1999), 'Full of Eastern Promise', September.

⁴³ Queiroz, C., 'Major Trends in the Transport Sector and Impact on the Baltic States', Trans Baltica 2001 International Conference, (2001), June,

⁴⁴ <http://www.traport.org/ts/countries/latvia/bnotes.html>.

⁴⁵ Coface, N., and Kogan, L., (2001), 'Risk: A country -by- Country Guide', 3rd Edition, Published by Page Limited, London.

⁴⁶ Central Statistical Bureau of Latvia, 'Economics', (2001).

⁴⁷ European Bank for Reconstruction and Development, (2001).

which have resulted in the stabilization and expansion of the economy⁴⁸. However, in 1995 the largest commercial bank in Latvia collapsed leading to decrease of the GDP to – 0.8%⁴⁹.

Nevertheless, the government undertook a number of measures concerning the financial and banking system, which resulted in a more stable and stronger economy emerging⁵⁰. Furthermore, the financial crisis in Russia in 1998 had negatively influenced the Latvian economy resulting in reduction of the GDP in 1999 by 1.1%⁵¹. Since that period of economic stagnation, real GDP continued to grow reaching 5.4% in 2000 and 2001⁵². This growth was led mainly by increase of the export volumes since 1999, the expansion of industrial production and the recovery in domestic demand⁵³.

In addition, the country's inflation has been at a record low level, reduced considerably from 34.2 % in 1993, down to 2.6% in 2001⁵⁴.

3.3.2 Privatisation

Privatisation in Latvia is governed by the law on privatisation of State and Municipal Property, while privatisation procedures are carried out by the Latvian Privatisation Agency (LPA)⁵⁵. In early 1992 the Latvian government adopted a small-scale privatisation scheme in order to allow foreign companies to enter new markets that the local companies were not sure how to penetrate⁵⁶. In addition, in 1994 the privatisation of medium-sized and large-sized enterprises commenced due to the need to attract foreign investment⁵⁷. The Latvian Privatisation Agency adopted a case-by-case approach regarding the privatisation

⁴⁸ Central Statistical Bureau of Latvia, 'Economics', (2001).

⁴⁹ Bank of Finland Institute for Economies in Transition (BOFIT), 'The Baltic States', (2001).

⁵⁰ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd.

⁵¹ Coface, N., and Kogan, L., (2001), 'Risk: A country –by- Country Guide', 3rd Edition, Published by Page Limited, London.

⁵² Bank of Finland Institute for Economies in Transition (BOFIT), 'The Baltic States', (2001).

⁵³ <http://www.mac.doc.ceeibic/marketresearch/Latvia>

⁵⁴ <http://www.mac.doc.gov/ceeibic/investmentprofile/latvia/pdf>

⁵⁵ Estrin, S., (1994), 'Privatisation in Central & Eastern Europe', Published by Longman, London.

⁵⁶ Coface, N., and Kogan, L., (2001), 'Risk: A country –by- Country Guide', 3rd Edition, Published by Page Limited, London.

⁵⁷ Seatrade Review, (1996), 'Hitting the Privatisation Trail', April.

procedures. The methods of privatisation varied, including international tenders, direct sales, public auctions and public offerings on the stock market⁵⁸.

Even though 97% of all planned privatisations had been completed by 2000, the privatisation of the three main large-scale enterprises (the Ventspils Nafta oil terminal, Lattelekom and the Latvian Shipping Company) has been delayed⁵⁹.

The largest enterprise in Latvia is the Ventspils Nafta oil terminal which accounts for a considerable share of Latvia's GDP⁶⁰. In May 2000 the government's attempt to sell a 7% share on the local stock market failed, due to poor market conditions⁶¹. The procedures for the privatisation of the 7% stake of Ventspils Nafta oil terminal are still under way⁶².

In addition, the government's attempt to privatise a 51% stake of the telephone company Lattelekom has been delayed until the government succeeds to enter an agreement with Tilts Communications (Denmark), which owns the remaining 49% of the stake⁶³.

Moreover, the Latvian government has failed to privatise 44% of the Latvian Shipping Company (LASCO) due to the fact that the potential investor was not allowed to acquire a controlling stake of the company⁶⁴. However, in 2001 LPA announced that 68% of the stake would be given to any potential investor, while 6% out of the remaining would be sold to the staff and 15% will be offered publicly against privatisation vouchers⁶⁵.

Although there is a long list of prospective investors, the procedure for the privatisation of the Latvian Shipping Company remains incomplete.

⁵⁸ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

⁵⁹ <http://www.tradeport.org/ts/countries/Latvia/climate.html>

⁶⁰ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

⁶¹ Bank of Finland Institute for Economies in Transition (BOFIT), (2001).

⁶² Seatrade Review, (1996), 'Hitting the Privatisation Trail', April.

⁶³ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

⁶⁴ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

⁶⁵ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

3.3.3 Trade

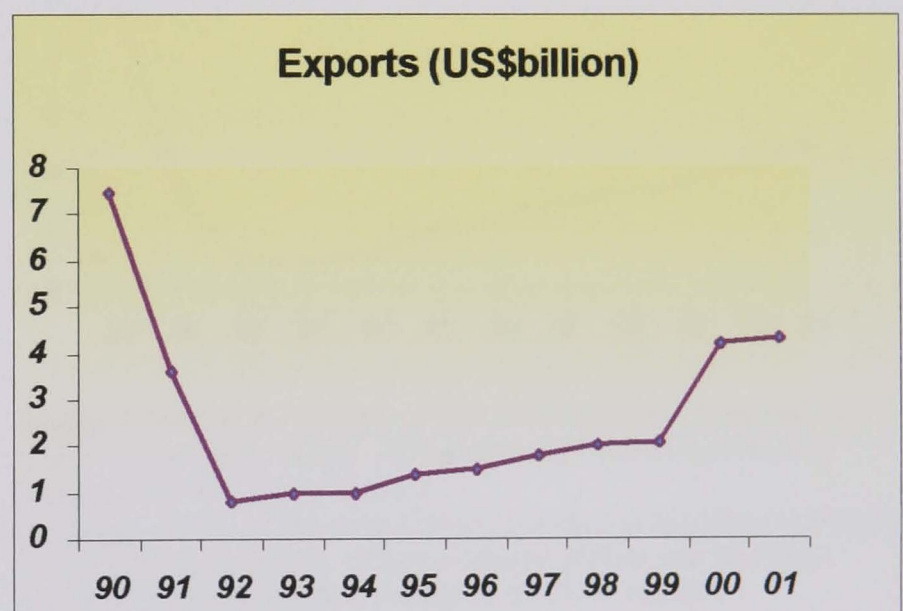
Once regaining its independence, Latvia moved quickly to open the market to foreign investors in an attempt to attract foreign investments and to diversify the country's trade partners beyond the former Soviet Union⁶⁶. However, Latvia was totally dependent on energy imports (oil, gas) mainly coming from Russia. Latvia's decision to declare its independence from the Communist regime, led to the decrease of trade, by 50%, with the Soviet bloc⁶⁷.

Nonetheless, as one can see in Figure 3.8, Latvia's trade started to recover steadily after the collapse of the Iron curtain. According to the Central Bureau of Statistics, Latvia's exports

to the EU in 2000 have increased considerably and now account for 65% of total exports in terms of value. However imports tended to grow faster than exports, due to the rapidly expanding demand for consumer goods, threatening the economy by increasing trade deficits⁶⁸.

Trade co-operation has increased considerably both with the other two Baltic States and the Nordic

Figure 3.8
Exports for Latvia From 1990 to 2001



Source 1: Brodin, A., (2000), 'Ports in Transition in Countries in transition, pp. 108, Parajett AB Landskrona Publishing, Sweden.

Source 2: EBRD, 2001, January.

Source 3: The EU's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

⁶⁶ Queiroz, C., 'Major Trends in the Transport Sector and Impact on the Baltic States', Trans Baltica 2001 International Conference, (2001), June.

⁶⁷ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

⁶⁸ The EU's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

countries. Other major trade partners include, UK, Germany and Russia⁶⁹. Since Latvia has a vital geographical position as transit link between East and West, the government has focused on simplifying the customs procedures⁷⁰. More specifically based on Latvia's Custom Law, special customs procedures are applied:

*'to the release of goods for free circulation, temporary import or export customs warehousing, import to duty-free shops, inward and outward processing, export and transit'*⁷¹.

In addition, one should be aware that there is no duty customs imposed:

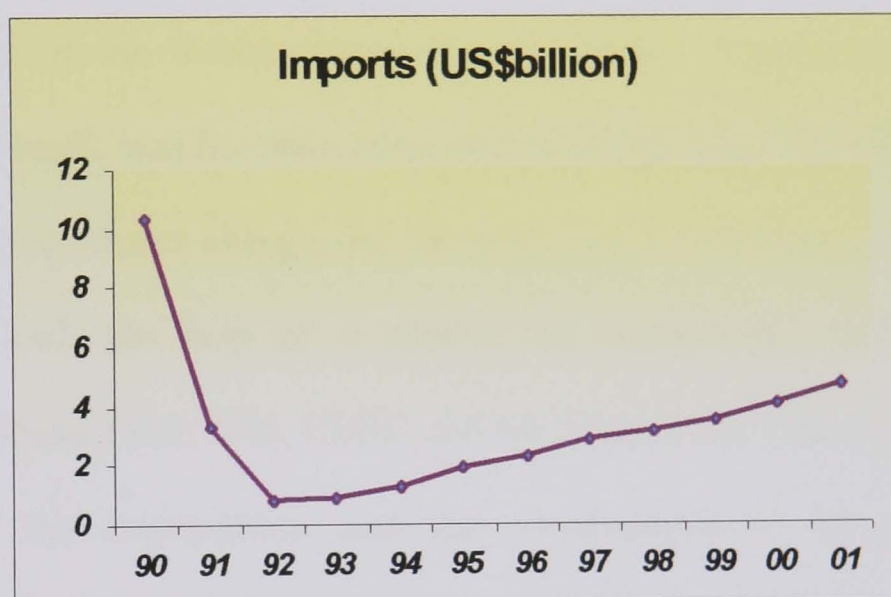
*'on vehicles used in international transport, goods in transit through Latvia, goods imported into or exported from customs warehouses or inland customs zones'*⁷².

Although, Latvia had imposed a number of tariff and non-tariff import restrictions in order to protect domestic

production in the past, at present since Latvia joined the WTO in 1999, it is committed to reduce all tariffs imposed at an enter stage, and retain only a few barriers concerning agriculture⁷³.

Figure 3.9

Imports for Latvia From 1990 to 2001



Source 1: Brodin, A., (2000), 'Ports in Transition in Countries in transition, pp. 108, Parajett AB Landskrona Publishing, Sweden.

Source 2: EBRD, 2001, January.

Source 3: The EU's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

⁶⁹ U.S Department of Commerce, National Trade Data Bank, (1999).

⁷⁰ Karbonski, A., (1992), 'The Columbia History of Eastern Europe in the Twentieth Century, Published by Columbia University Press, New York.

⁷¹ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

⁷² <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

⁷³ Coface, N., and Kogan, L., (2001), 'Risk: A country -by- Country Guide', 3rd Edition, Published by Page Limited, London.

3.3.4 Transport

Latvia has a key geographical location, traditionally and naturally, being classified as a strategic gateway between West and East⁷⁴. In addition the importance of its transport, distribution and transit sector is demonstrated by its contribution to the country's GDP⁷⁵. Since regaining its independence, the government decided to invest heavily in its multi-modal transport and distribution infrastructure, in order to maintain its position as transit gateway between East and Western Europe⁷⁶.

3.3.5 Roads

Since 1989, the already poor road infrastructure was undermined due to the size of problems caused by the collapse of the Soviet Union and the lack of finance in the region⁷⁷. The state of the Latvian roads was less than adequate at the time, and the lack of investment could not promise any significant changes for the near future⁷⁸. However, since then, the Latvian government with the help of a number of international financial organisations like Northern Investment Bank, EIB, EBRD and the Jexim Bank (Japan), has managed to ensure funds for the maintenance and the development of its road infrastructure⁷⁹.

Latvian road infrastructure has been improved since 1989; however, it still requires considerable investment. Currently, Latvia provides important transport corridors, including East-West connecting the major Latvian ports of Ventspils, Riga and Liepaja with

⁷⁴ Karbonski, A., (1992), 'The Columbia History of Eastern Europe in the Twentieth Century, Published by Columbia University Press, New York.

⁷⁵ <http://www.CSB.LV.Pres.fttrade101.htm>

⁷⁶ <http://www.tradeport.org/ts/countries/latvia/trends.html>

⁷⁷ Karbonski, A., (1992), 'The Columbia History of Eastern Europe in the Twentieth Century, Published by Columbia University Press, New York.

⁷⁸ Buchhofer, E., (1995), 'Transport infrastructure in the Baltic States During the Transformation to Market Economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

⁷⁹ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

Moscow via Latgale; and North-South, which connects Helsinki and Tallinn with Kaunas and Warsaw via Latvia, better known as the Via Baltica⁸⁰.

3.3.6 Railways

The railway network in Latvia is in better state than the road network due to the fact that the large majority of all the transit cargo through Latvia, which amounts to 80%, enters the country by rail, most of which is bulk cargo. Since the highest amount of transit cargo depends on railways, hence the maintenance and development of the railways has become a priority for the government⁸¹.

Latvia's railway system is directly connected to the Russian railway system through two corridors. The first is the east-west transit corridor, which connects Moscow with the port of Ventspils, and with two major branch lines to the ports of Riga and Liepaja⁸² (see Figure 3.10). The second corridor is the north-south freight corridor, which links Latvia to St. Petersburg (Russia) and Warsaw (Poland)⁸³. At this point it should be mentioned that Russia is a very significant Latvian trade partner based on the fact that 70% of the total rail cargo (approximately 40 million tonnes), originates in Russia. Therefore the development of the east-west corridor is very important⁸⁴.

Currently there is an extensive US \$ 750 million expansive and modernization programme, being carried out by IFI financing⁸⁵. In addition, the EBRD and the EIB are also involved in the project, for which the Latvian government has also applied to the EU for grant financing for the improvement of the East-West corridor⁸⁶.

⁸⁰ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

⁸¹ Queiroz, C., 'Major Trends in the Transport Sector and Impact on the Baltic States', Trans Baltica 2001 International Conference, (2001), June.

⁸² Financial Times, (1999), 'Latvia Country Profile', March.

⁸³ Financial Times, (1999), 'Latvia Country Profile', March.

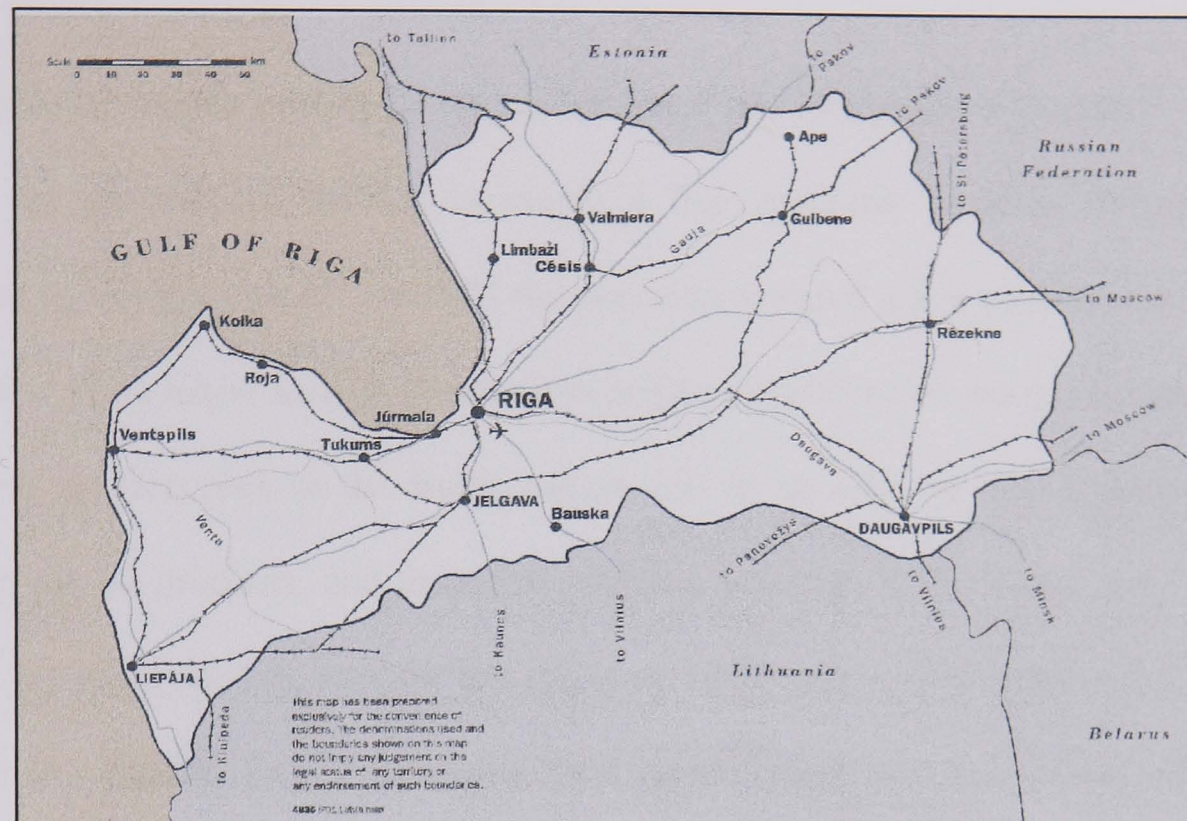
⁸⁴ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

⁸⁵ Bank of Finland Institute for Economies in Transition, (2001).

⁸⁶ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

Figure 3.10

The Rail and Road Systems in Latvia



Source: <http://www.mac.doc.gov/ceebic/investmentprofile/latvia/pdf>

3.3.7 Sea

Latvia's prime location as a transit hub for east-west trade is established largely by its three major ports, Riga, Ventspils and Liepāja. In addition, in terms of freight volume the Latvian ports are second largest in the Baltic region, after Finland's⁸⁷. Moreover, both Ventspils and Liepāja are ice-free all year around, while Riga operates with the help of an icebreaker in severe winters⁸⁸.

Riga is the second largest port in Latvia, specializing in containers. While out of all the transit cargo through Latvia 80% enters by rail, the same percentage leaves by sea⁸⁹. Currently there are more than 60 companies located at the port of Riga, providing all

⁸⁷ Canfield, J., I., (1993), 'Independent Baltic State Ports: the outlook for commercial viability', Maritime Policy and Management Vol. 20, No. 2. pp. 133-152.

⁸⁸ Port of Liepāja brochure, (2001).

⁸⁹ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

essential associated services⁹⁰. Likewise, there are both short and long term investments being made in the infrastructure and superstructure of the port as part of the Programme for Port Development⁹¹. However, the next chapter will provide a more detailed analysis of both the port's facilities and potential.

Ventspils is the largest port in Latvia and amongst the 15 biggest in Europe⁹². At the end of 1996 the government decided to create a free economic zone to stimulate foreign investment in Ventspils's port⁹³. In 1997 the port was declared a free economic zone. During the past few years major foreign investments helped the port to be recognised worldwide as the leading ice-free port in the Baltic region and as an efficient and important regional center for oil, oil products, and industrial chemical products in the Baltic area⁹⁴. Ventspils has been for years the key area for the transport of Russian bulk products to NW Europe and even the Middle East⁹⁵. Ventspils until recent years was specialising only in bulk products and chemicals. However, in 2000 a new container terminal started to operate which was the result of a joint venture between a leading Belgian stevedoring firm and a group of several Latvian entities⁹⁶.

Liepaja is an ice-free port which moved from being the former home of the main Soviet Baltic Fleet to a continuously developing and renovated port. Liepaja is developing an attractive and competitive infrastructure, which is crucial factor for its future establishment as a vital transit port⁹⁷. The harbour has been deepened and new terminals are being built⁹⁸.

⁹⁰ Bank of Finland Institute for Economies in Transition, (2001).

⁹¹ Central and Eastern Europe Business Information Center, (2001).

⁹² European Bank for Reconstruction and Development, (2001).

⁹³ Buchhofer, E., (1995), 'Transport infrastructure in the Baltic States During the Transformation to Market Economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

⁹⁴ Bank of Finland Institute for Economies in Transition, (2001).

⁹⁵ Lijewski, T., (1996), 'The Impact of Political Changes on Transport in Central and Eastern Europe', Transport Reviews, Vol. 16, No. 1, pp. 37-53.

⁹⁶ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

⁹⁷ Port of Liepaja brochure, (2001).

⁹⁸ Latvian Development Agency, 'Privatisation', (2000).

The cargo turnover is steadily growing to 3 million tones per year⁹⁹. The port is a multifunctional commercial port, handling timber, metals, bulk cargo and containers¹⁰⁰. In 1997 the port was declared a special economic zone, and future developments include the improvement of the rail and road network¹⁰¹.

3.4 Lithuania

3.4.1 Economy

Lithuania borders the Baltic Sea, between Latvia and Russia (Appendix 2). Since regaining its independence in 1991, Lithuania has successfully reoriented itself towards the West, by adopting a consistent programme of structural reforms, accompanied by small and medium scale privatisation¹⁰². Moreover, the government set out a number of goals including the creation of foundations for sustainable economic growth, to improve the business environment, to adopt an appropriate tax policy and to liberalise the labour market¹⁰³.

In 1993 the national currency, the litas, was introduced and by 1994 the new currency was pegged against the US dollar¹⁰⁴. At the early stages of economic transition, Lithuania experienced an environment of very high inflation and very low GDP mainly due to the refusal of the Russian Federation to supply oil and gas to Lithuania after declaring its independence¹⁰⁵. Nevertheless, soon Russia realised that it was partially dependent on the Baltic States for its oil transit and therefore the establishment of good relations between the countries was inevitable since both sides depended on one another¹⁰⁶.

⁹⁹ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

¹⁰⁰ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Latvia/ccg2000/F2.htm>

¹⁰¹ <http://archive.tol.cz.countries/litar98.html>

¹⁰² <http://archive.tol.cz.countries/litar98.html>

¹⁰³ Lloyd's Shipping Economist, (1996), 'Seeking economic credibility', May.

¹⁰⁴ <http://archive.tol.cz.countries/litar98.html>

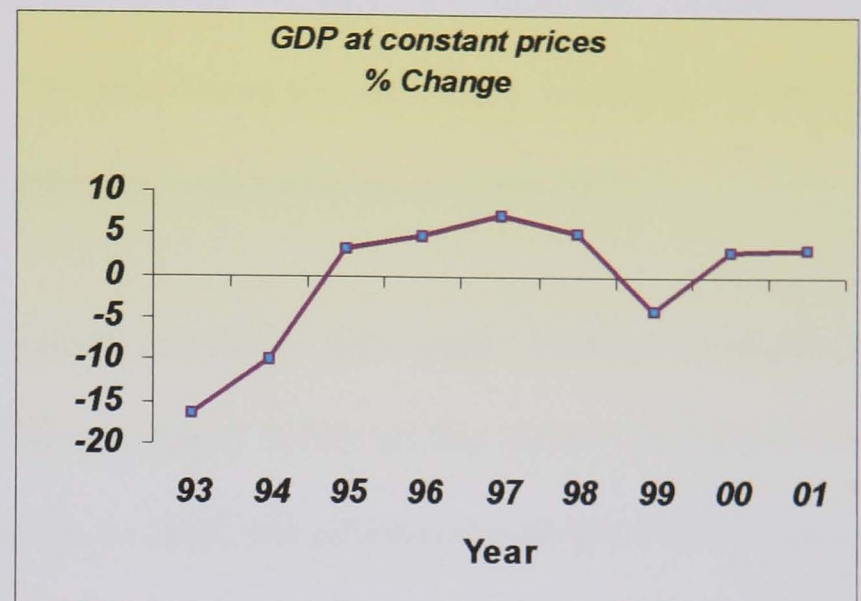
¹⁰⁵ <http://archive.tol.cz.countries/litar98.html>

¹⁰⁶ Lloyd's Shipping Economist, (1999), 'Full of Eastern Promise', September.

Moreover, the country benefited from its disciplined approach to market reforms and to strict fiscal and monetary policies, which led to the recovery of the GDP¹⁰⁷. The steady growth of Lithuania's GDP from 1993 to 2001 is illustrated in Figure 3.11, with the exception of 1999 when the country's economy was negatively influenced by the Russian financial crisis which led to the decline of the GDP growth to -4.2% ¹⁰⁸. However, the national GDP growth has been slowly recovering since then reaching 3.4% in 2001¹⁰⁹. This growth was mainly dependent on the increase in export demand, improvements in the transport sector and recovery in industrial output¹¹⁰.

Figure 3.11

Lithuania's GDP From 1990 to 2001



Source:

<http://www.mac.doc.gov/ceebic/investmentprofile/latvia/pdf>

3.4.2 Privatisation

Since the early years of its transition, Lithuania moved rapidly towards small and medium scale privatisation¹¹¹. The country relied heavily on the voucher method in privatising its state-owned assets¹¹². This method tended to favour the industry's insiders, such as employees and managers¹¹³. However, in the middle of the 1990's the Lithuanian government adopted a combination of privatisation methods, including direct sales and

¹⁰⁷ <http://www.tradeport.org/ts/countries/lithuania/bnotes.html>

¹⁰⁸ <http://archive.tol.cz/countries/litar98.html>

¹⁰⁹ <http://archive.tol.cz/countries/litar98.html>

¹¹⁰ Bank of Finland Institute for Economies in Transition, (2001).

¹¹¹ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd, London.

¹¹² Bank of Finland Institute for Economies in Transition, (2001).

¹¹³ <http://archive.tol.cz/countries/litar98.html>

tenders¹¹⁴. After 1997 the privatisation of small-size and medium-size enterprises started to accelerate mainly due to the increased number of enterprises that wished to be privatised- in order to attract foreign investments-, and the more advantageous conditions proposed to the potential buyers¹¹⁵.

Furthermore, the government was aware that the creation of new private enterprises was also important in building a well-functioning market economy. Nevertheless, the potential investors seemed to be discouraged by the country's frequently changing business regulations, which did not create a favourable nor safe business environment¹¹⁶.

In addition, while both Estonia and Latvia privatised their larger banking institutions quickly, the Lithuanian state still remains the major owner of the country's second and third largest commercial banks¹¹⁷. However, in 1999, the government adopted an extensive bank privatisation programme. In 2000 the Estonian Hansapank (Swedish owned), was announced as the leading bidder for the acquisition of the Lithuanian Savings Bank¹¹⁸. Likewise, the Finnish financial group, SampoLeonia, won in public tender a 100% stake of the Lithuanian Development Bank¹¹⁹. Also the privatisation of other state-owned banks is under preparation for the near future.

Although Lithuania's privatisation programme was speedy, it left many of the large firms still under the government's control. Therefore, in 1999 the government moved towards the privatisation of a number of large-scale enterprises to foreign investors¹²⁰. The biggest

¹¹⁴ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Lithuania/ccg2000/F2.htm>

¹¹⁵ Seatrade Review, (1996), 'Hitting the Privatisation Trail', April.

¹¹⁶ Hazley, A., and Hirvonsalo, I., (1998), 'Barriers to Foreign Direct Investments in the Baltic Region' Baltic Sea Summit.

¹¹⁷ Bank of Finland Institute for Economies in Transition, (2001).

¹¹⁸ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Lithuania/ccg2000/F2.htm>

¹¹⁹ Lithuanian Development Agency, (2001).

¹²⁰ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

privatisation took place in 1999 with the sale of a 33% stake of the Mazekiu Nafta oil company to the American company Williams International¹²¹.

Moreover, in 2000, Lithuania privatised a 25% stake of its national Telecom Company¹²². In addition, the government has privatised, through an international tender, an 81% stake of the oil exploration and production company, Geonafta, to a Polish-Swiss-Lithuanian consortium¹²³. Likewise, even though, the tender for the privatisation of the shipping company LISCO was awarded to a Dutch based consortium, the transaction failed to be completed due to last minute disagreements among the parties involved in the privatisation procedure¹²⁴.

3.4.3 Trade

Even after re-establishing its independence, Lithuania continued to conduct the main share of its trade with the Commonwealth of Independent States. However, the decline of both the export and import volumes from the CIS countries and the fact that Lithuania lagged behind Estonia and Latvia in attracting foreign investments, led the Lithuanian government to open its market to foreign investors¹²⁵. In addition, the government directed efforts towards establishing better trade relations with both West and East European countries, based on the principles of friendly contacts and mutually beneficial co-operation¹²⁶.

Foreign trade data indicates the rapid reorientation of trade towards Western markets. More specifically, it is estimated that roughly 50% of the Lithuanian trade has shifted since the middle of the 1990's towards the EU¹²⁷. From 1996 to 2001 the share of Lithuanian exports to the EU increased from 32.9% to 47.9% and imports from the EU rose from

¹²¹ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Lithuania/ccg2000/F2.htm>

¹²² <http://www.mac.doc.gov/EEBIC/COUNTRYR/Lithuania/ccg2000/F2.htm>

¹²³ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Lithuania/ccg2000/F2.htm>

¹²⁴ <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

¹²⁵ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd, London.

¹²⁶ <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

¹²⁷ <http://www.mac.doc.gov/EEBIC/COUNTRYR/Lithuania/ccg2000/F2.htm>

42.4% to 44.4%¹²⁸. This growth was mainly the result of a free trade agreement, signed between Lithuania and the EU, which came in to force in the beginning of 1995¹²⁹.

Lithuania has very good trade relations with Germany, accounting for about 16% of both its exports and imports. Other major Lithuanian export partners include the United Kingdom, Latvia and Russia¹³⁰.

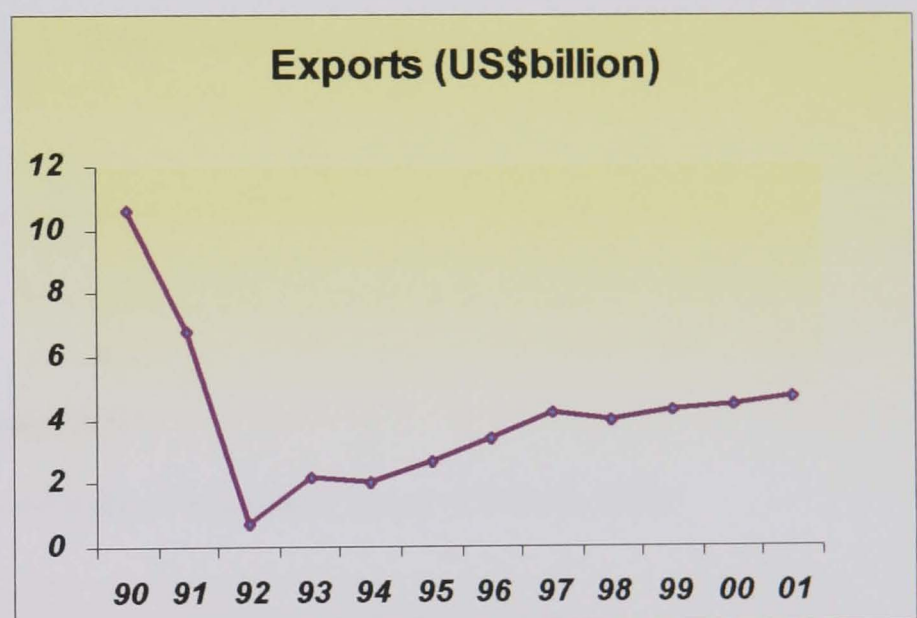
Through the first years of its economic transition, Lithuania's trade with the CIS countries was considerably reduced. Even though the share of Lithuanian exports to these countries decreased from 45.4% to 19.5%

and imports from CIS were reduced from 32.9% to 29.7% during the period 1996-2001, these countries remain the most important suppliers of raw materials including oil, gas, timber and metals¹³¹.

As Figure 3.12 and 3.13 illustrate, Lithuania has experienced a continuous increase in both its exports and imports. Exports to Russia

Figure 3.12

Exports for Lithuania From 1990 to 2001



Source 1: Brodin, A., (2000), 'Ports in Transition in Countries in transition, pp. 108, Parajett AB Landskrona Publishing, Sweden.

Source 2: EBRD, 2001, January.

Source 3: The EU's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

¹²⁸ Lithuanian Development Agency, 'Economy', (2002b).

¹²⁹ ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', pp. 68, Published by ECMT.

¹³⁰ <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

¹³¹ Lithuanian Development Agency, 'Economy', (2002b).

especially, have been picking up mainly because the Russian demand has been growing steadily¹³². Moreover, the growth in foreign trade has resulted in growing exports to the EU¹³³.

By the end of 1998 the import tariffs on agricultural products were increased due to the Russian financial crisis. In addition:

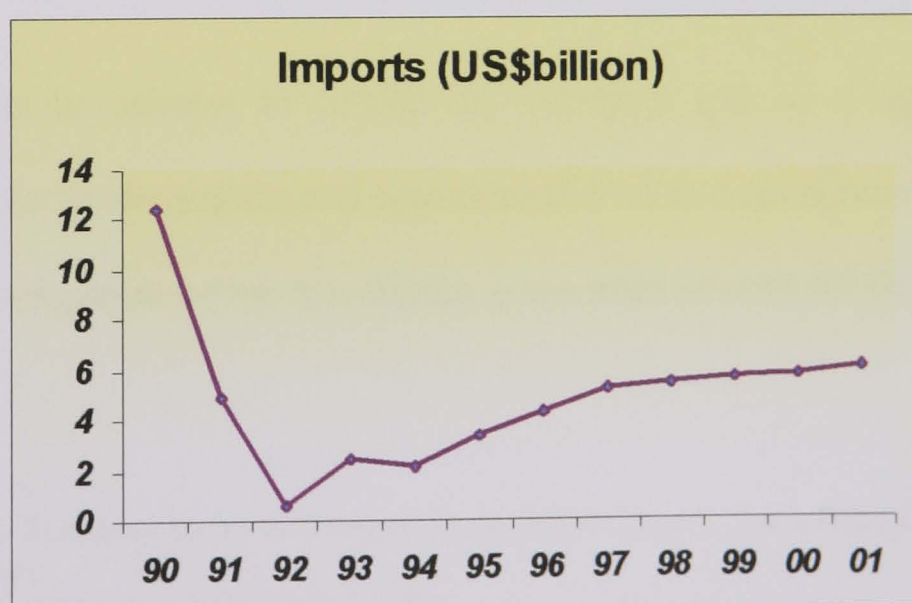
‘Export subsidies were introduced in order to protect farmers who were in danger of losing their Russian market’¹³⁴.

However, these measures complicated Lithuania’s accession to the WTO. By 2000, Lithuania agreed with the terms set by the WTO, including the gradual liberalisation of the agricultural sector and the reduction in import tariffs, and became a member of the WTO in 2001¹³⁵.

3.4.4 Transport

Like the other two Baltic States, Lithuania has a key geographical location as transit route between West and East Europe. Since regaining its independence, the Lithuanian government has tried to create an essential transport framework by providing

Figure 3.13
Imports for Lithuania From 1990 to 2001



Source 1: Brodin, A., (2000), ‘Ports in Transition in Countries in transition, pp. 108, Parajett AB Landskrona Publishing, Sweden.

Source 2: EBRD, 2001, January.

Source 3: The EU’s Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), ‘Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

¹³² The World Fact book, (2001).

¹³³ The World Fact book, (2001).

¹³⁴ <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

¹³⁵ <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

favourable conditions such as, legal system, harmonization with international transport enterprises, and infrastructure development¹³⁶.

‘From the very beginning the goal was integration into international transport markets’¹³⁷.

3.4.5 Roads

Lithuania has inherited its present road network infrastructure from the Soviet Union. Since the country’s main port, Klaipeda, was extensively used by the former Soviet Union,

‘A reasonably well-developed road network exists in the east-west direction to support Baltic Sea traffic’¹³⁸.

However, one should be aware that when the Lithuanian road network system is compared with the equivalent Western European road networks, it can only be described as adequate¹³⁹. Moreover, the Lithuanian north-south road network is still weaker and less developed than the east-west¹⁴⁰. Therefore,

‘transit and export cargoes are still funnelled through the ports, rather than attempting to circumvent the bottlenecks affecting middle Europe’¹⁴¹.

The Lithuanian government, in an attempt to rebuild the country’s role as a regional transport hub, has focused on the modernization and reconstruction of its road networks¹⁴².

In the light of this aim, the development of the Via Baltica is the main priority for the near

¹³⁶ Queiroz, C., ‘Major Trends in the Transport Sector and Impact on the Baltic States’, Trans Baltica 2001 International Conference, (2001), June.

¹³⁷ <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

¹³⁸ Mellor, R., (1975), ‘Eastern Europe: A Geography of the Comecon Countries’, Published by the Macmillan Press Ltd., London.

¹³⁹ Mellor, R., (1975), ‘Eastern Europe: A Geography of the Comecon Countries’, Published by the Macmillan Press Ltd., London.

¹⁴⁰ ECMT (European Conference of Ministers of Transport), (2000), ‘Integration of European Inland Transport Markets’, Published by ECMT.

¹⁴¹ Lithuanian Development Agency, ‘Economy’, (2002b).

¹⁴² Lithuanian Development Agency, ‘Economy’, (2002b).

future. The creation of this road network started in 1996 and is being financed by the EIB the EBRD, EUPhare and the Nordic Investment Bank¹⁴³.

3.4.6 Railways

Lithuania has an extensive railway network reaching 1,905 kilometres, of which 122 kilometres are electrified¹⁴⁴. Between 1995 and 1998 the traffic freight on Lithuanian railways increased by 17% and over 27% of the total traffic was cargo in transit. However, in recent years the cargo volumes have been reduced¹⁴⁵.

Even though the main commodities moved by rail are bulk cargo, the Lithuanian Ministry of Transport aims to modernise and develop the railway network in an attempt to increase the volumes of containers moved by rail, due to the fact that it is cheaper, safer and more environmentally friendly than the other transport modes¹⁴⁶.

The Lithuanian rail network has direct connections with Russian, Byelorussia, and Latvian railways and the movement of cargo by rail is allowed due to the fact that all these countries have the same rail gauge (Figure 3.14)¹⁴⁷. Although, the Lithuanian rail gauge does not conform to the European standard, the rail network is operating intensively between the port of Klaipeda (Lithuania) and the CIS¹⁴⁸.

In addition, Lithuanian railways (LG) are in the process of being reconstructed and developing its operational activities in order to become more competitive. Currently the EBRD is considering providing a loan of 58 million Euros to the LG for the

¹⁴³ Gros, D., and Steinherr, A., (1995), 'Economic Transition in Central and Eastern Europe', Published by Longman, London.

¹⁴⁴ Lithuanian Development Agency, (2002b).

¹⁴⁵ The World Factbook, (2001).

¹⁴⁶ ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', Published by ECMT.

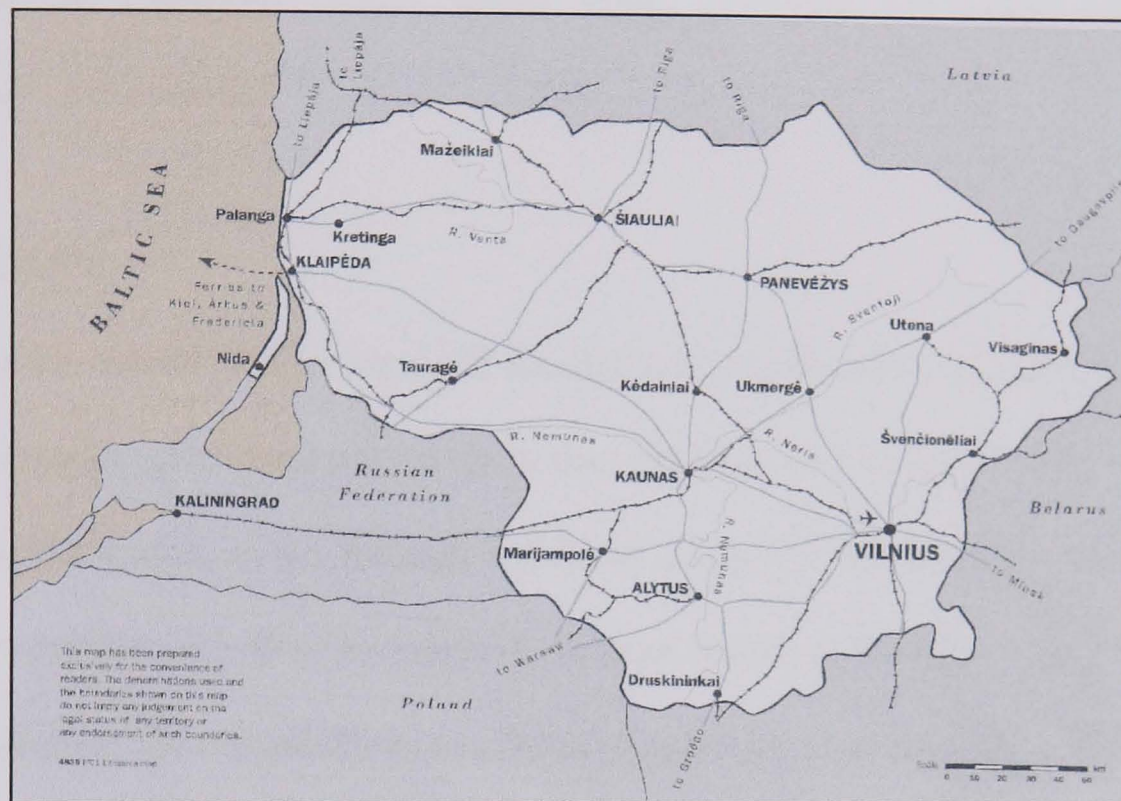
¹⁴⁷ Mellor, R., (1975), 'Eastern Europe: A Geography of the Comecon Countries', Published by Macmillan Press Ltd., London.

¹⁴⁸ The World Factbook, (2001).

implementation of the reconstructing programme and maintenance of its railways¹⁴⁹. This project would be achieved in co-operation with the ISPA fund and would be supported by the EU-Phare technical co-operation funding¹⁵⁰.

Figure 3.14

The Rail and Road Systems in Lithuania



Source: <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

3.4.7 Sea

Klaipeda, Lithuania's largest port is the northernmost ice-free port in the Baltic region, and provides a major contribution to the development of the country's economy and transport sector¹⁵¹. The port has both road and rail connections to Belarus, Russia and Ukraine, and therefore handles a significant part of the Baltic Sea trade¹⁵². In 2000 Klaipeda was found to be the fastest growing port in the Baltic Sea in terms of freight turnover, handling over

¹⁴⁹ <http://www.mac.doc.gov/ceebic/investmentprofile/lithuania/pdf>

¹⁵⁰ Lithuanian Development Agency, (2002b).

¹⁵¹ The EU's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea, Published by COW consult.

¹⁵² Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

19 million tons of cargo¹⁵³. One should be aware that around 70% of this cargo was cargo in transit¹⁵⁴. Klaipeda is a multipurpose port, handling various types of cargo, but mainly oil products, metals and containers.

The government has adopted a long-term development investment programme for the port of Klaipeda, which is due to be completed by 2015, and it is expected to increase the throughput to 60 million tons¹⁵⁵. This port modernization and development program is financed by the European Union, World Bank, European Investment Bank and the Scandinavian Governments¹⁵⁶.

3.5 Conclusion

Looking on the overall performance and development of the Baltic States, one can see that all three countries have managed within a decade since they declared their independence from the Soviet Union, to go through a difficult economic and political transition and to establish integration with Western markets, become members of the United Nations and to enter a number of UN organizations and other agreements including IMF, WB, EBRD, and WTO.

Each government in the meantime managed to set up a proper institutional framework, including an European Integration Council and other structures, in order to prepare for their integration into the EU. All three Baltic States aim to meet the criteria set out in Copenhagen for the countries applying for EU membership. The most important criteria related to the existence of a functioning market economy and the ability to comply with obligations of membership. Estonia, Latvia and Lithuania in their attempt to comply with

¹⁵³ The World Factbook, (2001).

¹⁵⁴ Canfield, J., I., (1993), 'Independent Baltic State Ports: the outlook for commercial viability', Maritime Policy and Management Vol. 20, No. 2. pp. 133-152.

¹⁵⁵ <http://www.mac.doc.gov/ceeibc/investmentprofile/lithuania/pdf>

¹⁵⁶ <http://www.mac.doc.gov/ceeibc/investmentprofile/lithuania/pdf>

the EU regulations have established satisfactory economic stability, and efficient ports with high standards and therefore are expected to join the EU in the next round in 2004¹⁵⁷.

The integration of the Baltic States in the EU, and the future effects that such achievement would have upon the transport sector of each one of the Baltic States, are analysed in a separate chapter. However, the next chapter will focus on examining the gateway markets for containers in transit via the Trans Siberian Railway.

¹⁵⁷ <http://www.europa.eu>

CHAPTER FOUR

THE GATEWAY MARKETS

4.1 Introduction

Although Russia is the largest country in the world its geographical form makes it the least accessible from an international transport point of view¹. There are many ports such as St. Petersburg, Vostochny and Vladivostok, located at the corners of the country but most of those have a number of disadvantages. For example, the southern region of the country is blocked by chains of mountains, whilst to the west, the Western Europe mainland prevents any access to the sea². Moreover, the eastern seaboard is removed from mainstream activity, and the northern coast is ice-bound for most of the year³. The main location of access to Western Europe is the Baltic Sea region, which is situated far from the main sea-lanes. During the Soviet Union years, Russia was using this access point in order to trade with countries in the West⁴. However, after the collapse of the Soviet Union in 1991, Russia lost all the ports situated on the coast of the Baltic Sea region, except Kaliningrad and St. Petersburg⁵. This meant that Western countries that were exporting cargo to Russia began to use Finland and the Baltic States of Estonia, Latvia and Lithuania, as gateways for their trade. More specifically, there are three transport routes for goods from Western and Central Europe to Russia. These three alternatives gateways are, the Finnish route, the Baltic route and the Inland route⁶ (Figure 4.1).

¹Gros, D., and Steinherr, A., (1995), 'Economic Transition in Central and Eastern Europe', Published by Longman, London.

² Mellor, R., (1975), 'Eastern Europe: A Geography of the Comecon Countries', Published by Macmillan Press Ltd., London.

³ <http://www.seahunt.co.uk/advice/russiahtml>.

⁴ Jorre, G., (1961), 'The Soviet Union', 2nd Edition, Published by Longman, London.

⁵ Moore, K, A, Greenwich Forum VI, (1980), 'Development of the USSR'.

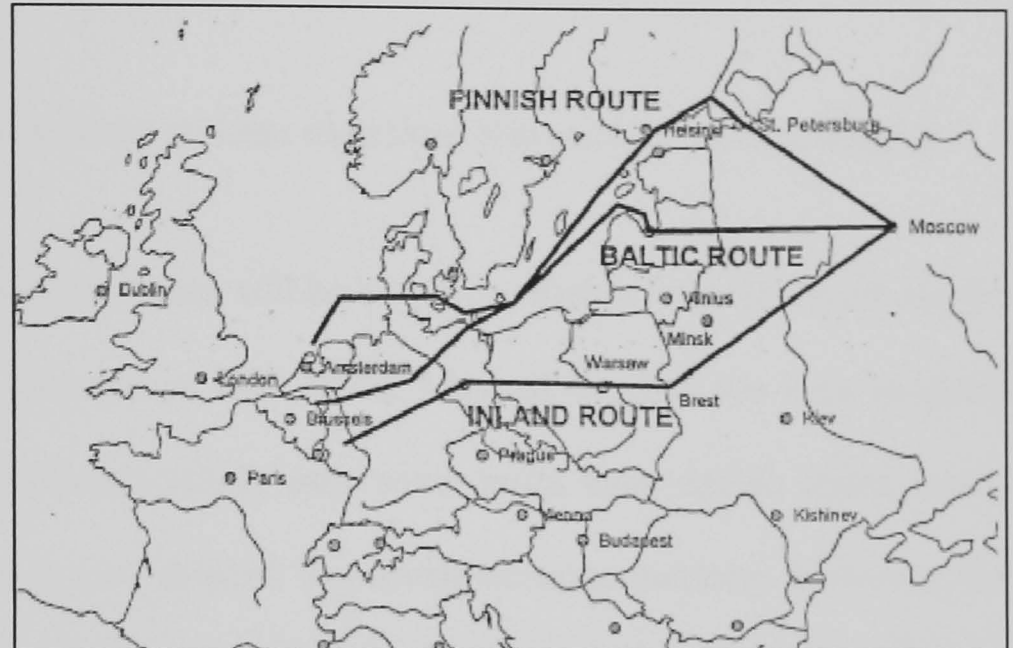
⁶ ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', Published by ECMT.

This chapter aims to analyse the present situation and the development of the gateway markets in the Baltic Sea region since the collapse of the Soviet era. One should be aware that the development of the

market is based solely on **Figure 4.1**

container flows due to fact **The Three Transport Routes or Gateway Markets**

that this research seeks to examine the movement of containers and not other (e.g. bulk) cargo. In addition, the state of the sea, rail and road infrastructure is also examined as well as the advantages and disadvantages of the Finnish and the Baltic route. The



Source: Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp.14, Master of Science in International Logistics, Published by the University of Plymouth.

third potential route, the Inland route will not be analysed due to the reasons mentioned in the introduction to the research.

In order for the author to determine the efficiency and the capability of each one of the alternative routes, there was need to examine in detail the past, present and future of the infrastructure of the two routes, as far as possible, taking into consideration the difficulties in obtaining data for the ports and infrastructure of the Baltic countries and Russia. At this point it should be mentioned, that most emphasis would be given to the rail infrastructure due to the fact that this research aims to analyse the movement of containers via the Trans Siberian Railway. In addition, the EU aims to promote railways as transit corridors in the future since they are considered to be safer and environmentally friendly⁷.

⁷ Lijewski, T., (1996), 'The impact of political changes on Transport in Central and Eastern Europe', Transport Reviews, Vol. 16, No. 1, pp. 37-53.

Moreover, one should know that the state of infrastructure clearly has an important impact on the route's transit time.

*'The transit times are an essential part of the competitive analysis of the gateway routes because the transit times have an impact on the shippers' choice due to customers' tendency to minimise the amount of capital involved in the stocks'*⁸.

Therefore, the comparable transit times of these routes are also examined in this chapter.

Container flow through the gateway routes will be also presented in order to determine the present status and the future potential of each route. Most of the data has been obtained from port published statistics. Unfortunately only some ports keep details about transit containers, which means that it is very difficult to provide accurate numbers. However, the most difficult and challenging task has been to obtain statistics for container flows, which come from and via Russia. The main sources have been a number of publications, conference papers and personal interviews with individuals who are closely involved with either the port authorities or the International Co-ordinating Council on Trans Siberian Transportation.

Finally the advantages and disadvantages of the gateway routes will be presented due to the fact that such factors always tend to have a significant impact on customer choice.

4.2 The Finnish route

Finland has a key geographical position lying on the eastern shores of the Baltic Sea and the Gulf of Finland next to Russia⁹. Finland's economic and transport environment has changed considerably during the 1990's mainly due to the country's accession to the

⁸ Paykkonen, P., A., (1997), 'The future potential of Finland and its Railways in container Gateway Traffic to Russia', pp.14. Master of Science in International Logistics, Published by the University of Plymouth.

⁹ Karbonski, A., (1992), 'The Columbia History of Eastern Europe in the Twentieth Century, Published by the Columbia University Press, New York.

European Union, and Russia's orientation towards a market economy¹⁰. The Finnish economy has been among the fastest-growing economies of the European Union for several years with GDP reaching 5.6% in 2000¹¹. Moreover, Finland's accession to the European Union has helped the country to move towards structural changes in key economic sectors, mainly in transport¹². Finland's transport infrastructure is very cost – intensive but nevertheless very good¹³.

4.3 Finnish Ports and Container Flows

Finland has an advantageous geographical position in the Baltic Sea due to the fact that it is currently Russia's only EU neighbour¹⁴. Such a position creates suitable opportunities for transport to and from the East (See Figure 4.2). However, from May 2004, all three Baltic States of Estonia,

Latvia and Lithuania will become EU members, thus improving Russia's access to the EU¹⁵. The role as a mediator between east and west is important to Finland. Since the late 1980's Finland has become established as a major transit country in the Baltic Sea region among Western

Figure 4.2
Finnish Ports and Major Railways



Source: Brodin, A., (2000), 'Ports in Transition in Countries in transition, p124, Published by Parajett AB Landskrona, Sweden.

¹⁰ <http://www.tradepot.org/ts/countries/finland/bnotes.html>

¹¹ <http://www.state.gov/r/pa/ei/ngn/3238.htm>

¹² Harnack, N., (2002), 'The Future for the OSTSEE is in Containers', Published by Team lines GmbH & Co. KG, Hamburg.

¹³ <http://www.auswartigesarnt.com/finland/profile/html>

¹⁴ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd.

¹⁵ <http://www.europa.eu>

companies when exporting to and from Russia¹⁶. In addition, after the collapse of the Soviet Union the transit of cargo started to increase considerably mainly due to Finland's good political relations with Russia, and Russia's bilateral trade relationship with the EU¹⁷. When considering the transit of containers to Russia, containers are always transported to Finland by feeder vessels from Western Europe¹⁸. Containers come to Finland from major European transshipment ports like, Rotterdam, Antwerp, Hamburg, Bremen and those in the United Kingdom¹⁹. This is mainly because containers arrive from the United States, Far East and Singapore in large container vessels to the major European transshipment ports that can facilitate such vessels²⁰. Then these containers heading to Russia or via Russia to the Far East are reloaded to smaller feeder vessels and then carried to the Southern Finnish ports of Kotka, Hamina or Helsinki²¹. From the ports the containers are transferred to rail wagons or trucks and sent to the Moscow area²². The development of the container flow via the Finnish route has increased considerably since the collapse of the Soviet Union²³.

4.3.1 Port of Kotka

The port of Kotka is a multifunctional transit port located in the South East of Finland. The end of the Second World War brought significant change in the Eastern part of Finland, since the old Finnish port of Vyborg was ceded to the Soviet empire²⁴. That meant that Kotka and Hamina became the most easterly ports in Finland and the closest to the Russian border. Since then the two ports have been established as transit gateways for containers

¹⁶The European Union's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea', Published by Cowiconsult.

¹⁷http://www.mintc.fi/www/sivut/documentit/julkaisu/julkaisusarja/2001/a032002k_eng.pdf.

¹⁸Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

¹⁹The European Union's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea', Published by Cowiconsult.

²⁰Cargo Systems, (2002), 'Baltic Ports', March.

²¹Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', Master of Science in International Logistics, Published by the University of Plymouth.

²²<http://www.mintc.fi/www/sivut/english/facilities/sivu22.htm>.

²³Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

²⁴Karbonski, A., (1992), 'The Columbia History of Eastern Europe in the Twentieth Century', Published by the Columbia University Press, New York.

between the West and the East²⁵. Prior to 1997, containers would be handled in the Hietanen terminal in the port of Kotka²⁶.

However, by the end of 1997 the port of Kotka had started to work on a new dedicated container terminal in Mussalo, with annual capacity of 500,000 TEU²⁷. The new container terminal that entered in full service in the beginning of 2001 is situated 50 km from the border between Finland and Russia²⁸. In addition the terminal offers the full range of logistics services, including large warehouses, which have a connection to the railway network in Finland and Russia²⁹. There are several feeder services from European ports to the port of Kotka, including shipping companies like Sea-Land/Maersk, KNSM, Finncarriers and UniFeeder³⁰.

In 2000, the port of Kotka handled 192,108 TEU, whilst in 2001 this figure increased to 201,004 TEU. However, one should be aware of the effects that the Russian crisis has had upon Finnish ports. Prior to 1998 Kotka was handling 8,750 TEU per month for the Russian market³¹. This figure decreased significantly after the Russian economic crisis plunging to 1,925 TEU per month. Kotka in 2001 managed to increase the volume, which amounted in 2002 to about 7,000 TEU per month for the Russian market³².

4.3.2 Port of Hamina

Hamina port is the most Eastern port in the European Union, lying on the Gulf of Finland³³. The port is only 36 Km from the Finnish-Russian border³⁴. The port of Hamina

²⁵ ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', Published by ECMT.

²⁶ Containerisation International, (1997), 'Port of Kotka', pp. 64, January.

²⁷ <http://www.port.kotka.fi/esittely/HistoriaEN.html>

²⁸ <http://www.port.kotka.fi/esittely/Tour/KiertolEN.html>

²⁹ <http://www.speed.fi/English/services.htm>.

³⁰ Port of Kotka leaflet, (2001).

³¹ Lloyd's List, (2001), 'Finns Bring Service and Markets to Bear', March.

³² Lloyd's List, (2001), 'Finns Bring Service and Markets to Bear', March.

³³ <http://www.tradepot.org/ts/countries/finland/bnotes.html>

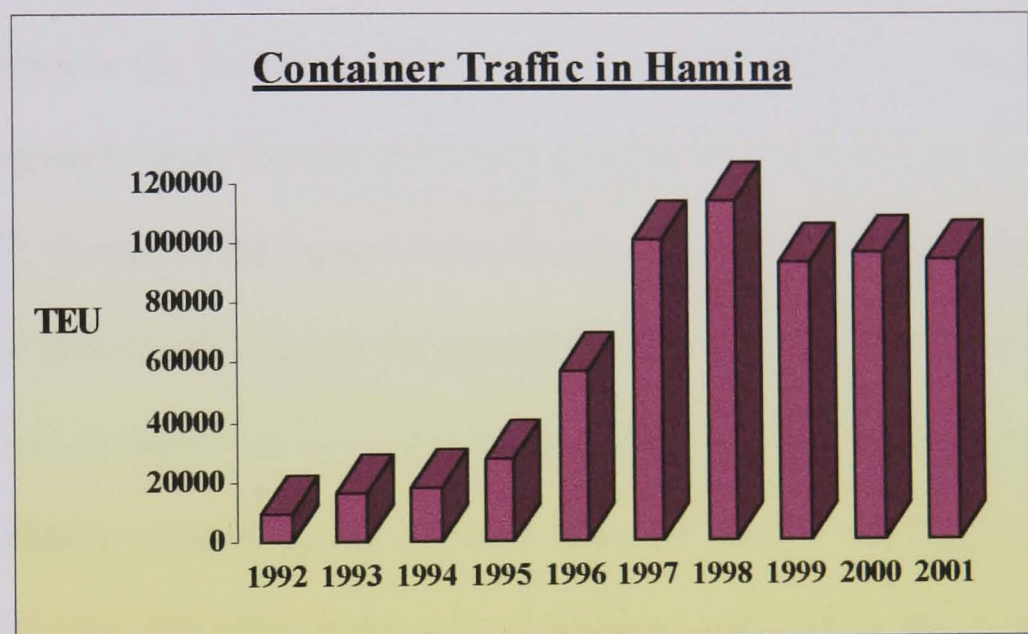
³⁴ <http://www.portofhamina.fi/information.index.html>.

provides an efficient container terminal, which can serve up to 400,000 TEU per year³⁵. In addition the container terminal provides three SSG-cranes, which are Panamax-cranes and are the only ones in the Baltic Sea region, eight mobile cranes and around 170 units of modern handling devices³⁶. Moreover, the port has more than 255,000 square meters of warehouses of which 62,500 square meters are heated³⁷. Currently there are a number of container companies that run their businesses in the port of Hamina including Sealand/Maersk and Steveco³⁸.

In addition, as Figure 4.3 illustrates, the volume of containers handled in the port of Hamina has increased significantly since 1992. As one can see, the highest peak was in 1998 where the container traffic

Figure 4.3

The Container Traffic in the Port of Hamina



Source: <http://www.portofhamina.fi/>

reached the 114,366 TEU³⁹. However, the Russian economic crisis in 1998 resulted in a decrease of container traffic in 1999 to 92,958 TEU⁴⁰. Since then the volumes of containers started to pick-up, with a minor set back in 2001 where the volumes dropped to 93,851 TEU⁴¹.

³⁵<http://www.portofhamina.fi/information.index.html>.

³⁶http://www.portofhamina.fi/information/port_desc.html.

³⁷http://www.portofhamina.fi/information/port_desc.html.

³⁸Coface, N., and Kogan, L., (2001), 'Risk: A Country -by- Country guide', 3rd Edition, Published by Page Ltd., London.

³⁹Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

⁴⁰http://www.portofhamina.fi/information/cont_traf.html

⁴¹Lloyd's List, (2001), 'Finns Bring Service and Markets to Bear', March.

4.3.3 Port of Helsinki

The port of Helsinki is Finland's main container port providing the most advanced port technology and logistics network in the country⁴². The port has direct scheduled connections with other ports of the Baltic and the North Sea, as well as most other European ports⁴³. The port handled 367,340 TEU in 2000 and 438,260 TEU in 2001⁴⁴.

The Russian container market was between 500,000 and 600,000 TEU in 2001, according to Government data⁴⁵. The three Finnish ports provided service for 45% of the Russian containers⁴⁶, and handled 80% of the 65,000 TEU containers in transit via the Trans Siberian Railway. Most of these containers originated from the Far East, mainly Korea⁴⁷.

The three ports located closest to the Russian border, Kotka, Hamina and Helsinki, handled the largest volumes of containers from Russia and transit containers moved via the Trans Siberian Railway, in 2001⁴⁸. However, the figures derived from each port, indicate the total throughput of containers of these ports and not the specific number of containers in transit from Russia or the containers in transit via the Trans Siberian Railway. Nevertheless, some estimations have been published, concerning the share of container transit. This share was about 60% in the port of Kotka, 5%-10% in the port of Helsinki and 95% in the port of Hamina⁴⁹ annually.

Although the port of Helsinki is the main Finnish container port, the transit of Russian containers accounts for a small share of 5-10% out of the 438,260 TEU handled annually. Nonetheless, the other two ports have a higher percentage of containers in transit mainly

⁴²<http://www.port.helsinki.fi>

⁴³Containerisation International, (1997), 'Port of Helsinki', pp. 64, January.

⁴⁴http://www.finnports.com/statistics.php?series=2001&table_id=5

⁴⁵Queiroz, C., (2001), 'Major Trends in the Transport Sector and Impact on the Baltic States' Trans Baltica 2001 International Conference, June.

⁴⁶Lloyd's List, (2001), 'Russian Container Transportation Volume in Line for Massive Growth', May.

⁴⁷<http://www.transportweekly.com/index-eng.html>

⁴⁸http://www.portofhamina.fi/information/cont_traf.html

⁴⁹Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp.14, Master of Science in International Logistics, Published by the University of Plymouth.

due to the fact that since the collapse of the Soviet Union the container flow has moved to the ports of Kotka and Hamina due to their favourable position near the Russian border⁵⁰.

4.4 Road Infrastructure

After the end of the Second World War the condition of the Finnish road infrastructure was very poor⁵¹. However, in the 1950's the Finnish government moved towards the improvement and development of the road network⁵². The main reason behind this decision was the increased demand for road transport. From the 1960's onwards the funding for road infrastructure was in good balance with the demand for transport⁵³. The Finnish National Road Administration is responsible for the maintenance and development of the public roads in Finland, while each area's municipality is responsible for the maintenance of private roads⁵⁴.

Currently the Finnish road network is in very good condition stretching to 78,000 Km⁵⁵. In addition, Finland provides two international highways, the E4 European highway in a north-south direction and the E18 European highway in an east-west direction⁵⁶.

In addition, the Via Baltica route (Helsinki-Tallin-Riga-Vilnius-Warsaw) will serve as an important factor in the development of Finnish trade due to the fact that this project has further opened access to Central Europe⁵⁷. Even though Finland provides an efficient and extensive road network on an international scale, the road traffic volumes in Finland are

⁵⁰Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by the Goteborg University, Sweden.

⁵¹<http://www.tiehallinto.fi/s11/s11abs.htm>

⁵²Finnish National Road Administration, (1998), 'The Finnish Road network', June.

⁵³<http://www.tiehallinto.fi/s11/s11abs.htm>

⁵⁴<http://www.mintc.fi/www/sivut/english/facilities/sivu22.htm>.

⁵⁵Finnish National Road Administration, (1998), 'The Finnish Road network', June.

⁵⁶<http://www.tielaitos.fi>

⁵⁷<http://www.baltinfo.org/informationdocument/fieds/transport>

rather small when compared to the railways⁵⁸. At present the traffic volumes crossing the Russian-Finnish border accounts only for 15% of the total container traffic via Finland⁵⁹.

4.5 Railway Infrastructure

Since this project aims to analyse the movement of containers via the Trans Siberian Railway, most emphasis would be given to the Finnish railway network due to the fact that 80% of the Trans Siberian container transit traffic is moved to Finland by railway.

Finland has a unique geographical position since it is the only European Union country to share common borders with Russia⁶⁰. In addition, Finland has the same rail gauge with Russia, which creates the best opportunity for the movement of containers via the Trans Siberian Railway and through the Finnish railways to the ports of Kotka and Hamina⁶¹ (See Figure 4.2). In addition, an advantage of having the same rail gauge is the fact that there is continuous transportation without the need to unload the cargo before final destination⁶².

In 1995 the Finnish railway industry was reorganised including the creation of the Finnish Rail Administration⁶³. The Finnish Rail Administration is an independent body subordinated to the Ministry of Transport and Communications in Finland, and is responsible for maintaining and developing the rail network⁶⁴. The reason for the creation of this body was:

‘The need to retain the commissioning of rail infrastructure and other official duties in state administration when the transport services operator Finnish Railways (VR) was transformed into a joint-stock company VR-Group Ltd’⁶⁵.

⁵⁸<http://www.finnra.fi>

⁵⁹<http://www.baltinfo.org/informationdocument/fieds/transport>

⁶⁰Zurek, J., (2001), ‘The Role of Seaports in Region Development’, Published by the University of Gdansk.

⁶¹<http://www192.102.142/scripts/cgiip.exe/Wservice=1vm/cm/pub/showdoc.p?docid+1735&...>

⁶² Finnish Railways, (2001).

⁶³ United Nations, Economic and Social Council, (1999), ‘Study of the Situation of Railways in Member Countries, Finland, October.

⁶⁴ <http://www.mintc.fi/www/sivut/english/facilities/sivu22.htm>

⁶⁵ <http://www.rhk.fi/english/activities.html>

VR is the largest operator in the Finnish transit business⁶⁶. For VR the Trans Siberian Railway route is a very important mainline due to the fact that it is a natural geographical rail link, and the most time-efficient land based transportation corridor, between Europe and Russia⁶⁷. Based on information obtained by the secretariat of the CCMT, nearly 80% of the containers in transit via the Trans Siberian Rail line are handled by the Finnish Railways⁶⁸.

There are two railway border-crossing points between Finland and Russia, Vainikkala and Niirala⁶⁹. According to information obtained by VR, the containers arrive in block trains (each block train has 100 wagons) at the Vainikkala station and then the containers are distributed in smaller groups to either port of Kotka, or Hamina or Helsinki⁷⁰. In 2001, 41,000 TEU were handled by VR all of which were containers in transit via the TSR⁷¹.

4.6 The Transit times of the Finnish route

As was mentioned to the introduction of this chapter, transit times have a significant impact on customers when choosing between different routes. When examining closely the transit times between the different Finnish transport networks one should note that transporting containers from Finnish ports by railways and via the TSR to the Far East has the potential to be faster than any other mode of land transport⁷². For example, a container from Finland to Korea via the TSR will take 12-14 days to arrive, while by sea it will take 28-34 days⁷³. One can assume that companies involved in this trade can save quite a lot of money from inventory costs and insurance when they choose the shortest route, which is the TSR route.

⁶⁶Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by the Goteborg University, Sweden.

⁶⁷http://www.geocities.com/kaky_ry/symposium/sasi.html

⁶⁸Lukov, B.E, General Secretary of the Coordinating Council on Trans Siberian Transportation, (2000), June.

⁶⁹<http://www.vr.fi>

⁷⁰Timo, Mantyla, (2002), Product Group Manager, VR.

⁷¹Timo, Mantyla, (2002), Product Group Manager, VR.

⁷²Coordinating Council on Trans Siberian Transportation leaflet, (2000).

⁷³ Helmer, J, (1999), 'Moller Weights Future of Russian Intermodal Route', Journal of Commerce, August 2.

In addition, commonly customers want all shipments to be delivered as soon as possible, although other areas such as cost and reliability are also important. One has to recognise that the Finnish route is really comparable with the Baltic route mainly because of the simpler border and customs formalities⁷⁴. Border and customs clearance in Finland usually takes 2 to 3 days and is less troublesome due to the fact that there is only one border to be crossed⁷⁵.

4.7 Advantages of the Finnish route

Based on all the information presented in this chapter so far, one can understand that Finland has become a very important market among the gateway countries in the Baltic Sea. From the transport point of view there are a number of advantages. Firstly the ports of Kotka, Hamina and Helsinki are efficient ports, which provide security and are located very close to the Russian border. In addition, Finland is a member of the European Union, which makes it more attractive and safe than the three newly established Baltic States that still struggle to achieve stability in their business environment.

Secondly, Finland has very good political relations with Russia. Since the end of the Second World War, Finland and the Soviet Union entered into an agreement of Friendship, Co-operation, and Mutual Assistance⁷⁶. After the collapse of the Soviet empire, Finland has retained a friendly bilateral relationship with Russia, while improving cross-border commercial ties and establishing itself as one of the main gateways for Russian cargo traffic.

Moreover, another advantage is the transit times. As mentioned earlier Finland has a common border with Russia, and that makes the customs procedures a lot faster than in other Baltic States.

⁷⁴ <http://www.vics.ru/english/News/new27.htm>

⁷⁵ <http://www.vics.ru/english/News/new27.htm>

⁷⁶ http://www.spk.lt/articles/article02_e.htm

4.8 Disadvantages of the Finnish route

Although, Finland is a very popular gateway route among companies involved in the container trade with Russia, there are a number of disadvantages that customers have to take seriously into consideration before choosing a gateway route.

Firstly, the Finnish ports, being in the northern part of the Baltic Sea, face severe winters with very low temperatures that cause the sea to freeze. The Finnish ports are not ice free ports and that means that in the winter the cargo vessels rely heavily on the assistance of icebreakers to lead them safely to port⁷⁷. Even though, the Finnish port authorities emphasise that the Finnish ports can operate all the year around, there have been a number of publications that indicate that the Finnish ports shut down for many days during the winter period due to the ice in ports⁷⁸.

Secondly, there is the disadvantage of the very high level of costs, related to the movement of containers. For example, the Finnish railway charges are three times more expensive than those of the Baltic States railways⁷⁹. The fact that a number of customers tend to think that the Finnish rail route is more secure than the Baltic rail route, places customers in a position where they have to choose between high costs and security.

Likewise, the Finnish sea route tends to have higher prices for the movement of containers than the Baltic State ports⁸⁰. One can realise that this kind of pricing policy adopted by the Finnish government may have a severe impact on the container flow in the future, mainly due to the fact that the Baltic States' ports have continued to develop and they are becoming increasingly comparable to the Finnish ports.

⁷⁷<http://www.virtual.finland.fi/finfo/english/icebreak.html>

⁷⁸Infomare, (2002), 'Port Offers Shippers a Siberian Shortcut', Press Review, November.

⁷⁹Lukov, N., E., (2000) General Secretary of the Coordinating Council on Trans Siberian Transportation, June.

⁸⁰Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp.14, Master of Science in International Logistics, Published by the University of Plymouth.

4.9 The Baltic States Route

Occupying a favourable geographical position in the Baltic Sea, the Baltic States have unique possibilities of involvement in international container transit⁸¹ (See Appendix 2). This statement is based on the fact that the Baltic States of Estonia, Latvia and Lithuania, have a historic role as gateways between the East and the West⁸². Since they were under the Soviet Rule these countries were used by Russia as transport gateways whilst trading with Western European markets⁸³. However, after the collapse of the Soviet Union the Baltic States have adopted major reforms for the transport sector⁸⁴. New legislation has been created, which complies with the rules of the western market economy, and promotes privatisation⁸⁵. At present, all Baltic States are pursuing active government policies with an emphasis on the development of their ports and railways, in order to establish themselves as major transit and distribution container centres⁸⁶. Although, Estonia, Latvia and Lithuania currently capture a rather small market share of the Trans Siberian Railway container transit, these Baltic States could be an important key transit route for further export/import opportunities to the East via the Trans Siberian Railway⁸⁷. Likewise, long delays in St. Petersburg port (Russia) make the transport of containers through the Baltic States ports into Russia, an attractive alternative⁸⁸.

4.10 Baltic States Ports and Container Flow

All three Baltic States have made significant progress in modernizing their transport sectors over the past few years⁸⁹. This can be seen by the change of the organisational

⁸¹http://www.spk.lt/articles/article02_e.htm

⁸²International Bulk Journal, (2001), 'Breaking Away from the Russian Bear', April.

⁸³Lijewski, T., (1996), 'The impact of political changes on Transport in Central and Eastern Europe', Transport Reviews, Vol. 16, No. 1.

⁸⁴Carter, M., (2000), Country Director for Estonia, Latvia, Lithuania and Poland, Europe and Central Asian Region, World Bank.

⁸⁵Estrin, S., (1994), 'Privatisation in Central & Eastern Europe', Published by Longman, London.

⁸⁶Gorbunovs, A., (2000), 'Report on Latvia', Minister of Transport and Communications, Republic of Latvia.

⁸⁷Queiroz, C., (2001), 'Major Trends in the Transport Sector and Impact on the Baltic States' Trans Baltica 2001 International Conference, June.

⁸⁸Containerisation International, (2001), 'Baltic Battlefield', January.

⁸⁹Carter, M., (2000), Country Director for Estonia, Latvia, Lithuania and Poland, Europe and Central Asian Region, World Bank.

structure in the Baltic States ports over the last decade⁹⁰. Prior to the collapse of the communist regime, the Baltic States' ports were part of the Soviet transport mechanism⁹¹. However, after regaining their independence they ceased to provide their services to the Soviet Union, but were used in order to improve the economy of each of the three independent states⁹².

In addition, in 1992 Estonia, Latvia and Lithuania adopted comprehensive reform packages and promoted privatisation⁹³. Currently port management practice in the Baltic States is that of landlord port, where the government or the municipality owns the land, whilst private companies own the cargo handling operations⁹⁴. More specifically, there are private stevedoring, shipbuilding and ship repair companies, which lease the land from the port authority and operate in the port independently⁹⁵. One should be aware that over 75% of the European Union's ports have adopted the same model of ownership, that of landlord ownership⁹⁶.

Figure 4.4 presents the roles of the private and the public sector in port infrastructure management and cargo-handling services in the Baltic States ports⁹⁷. As one can see in this figure, the Baltic States' ports depend for the improvement and the development of their facilities on the private sector. This may lead one to assume that foreign private companies can provide modern equipment and their experience on how to develop and operate an efficient port⁹⁸.

⁹⁰ Central and Eastern Europe Business Information Center, (2001).

⁹¹ Lijewski, T., (1996), 'The impact of political changes on Transport in Central and Eastern Europe', *Transport Reviews*, Vol. 16, No. 1, pp. 37-53.

⁹² Gros, D., and Steinherr, A., (1995), 'Economic Transition in Central and Eastern Europe', Published by Longman, London.

⁹³ Buchhofen, E., (1995), 'Transport infrastructure in the Baltic States during the transformation to market economies', *Journal of Transport Geography*, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

⁹⁴ European Bank for Reconstruction and Development (EBRD), (2000).

⁹⁵ Port of Tallinn, Riga, and Klaipeda.

⁹⁶ ⁹⁶ ECMT (European Conference of Ministers of Transport), (2000), 'Integration of European Inland Transport Markets', ECMT Publication.

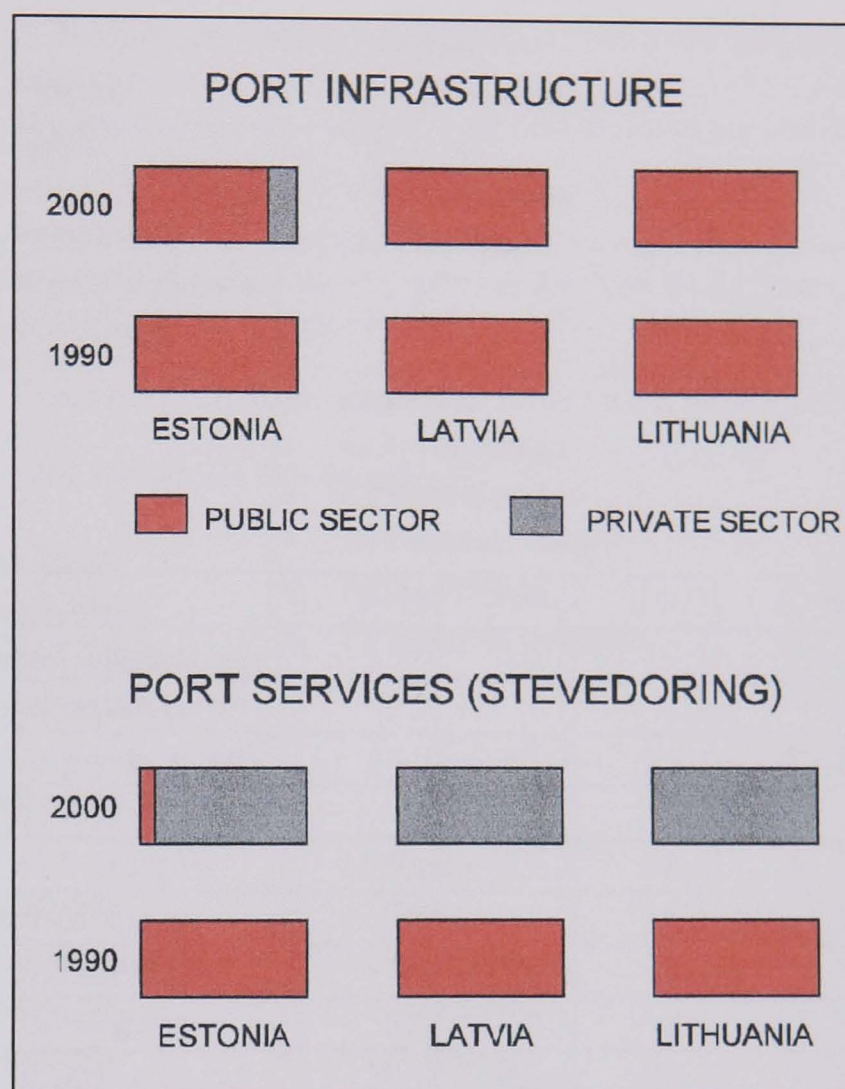
⁹⁷ European Bank for Reconstruction and Development (EBRD), (2000).

⁹⁸ Coface, N., and Kogan, L., (2001), 'Risk: A country-by-country guide', 3rd Edition, Page limited.

In addition, ports are very important transport modes for all three Baltic States especially for transit traffic⁹⁹. The largest container ports in the Baltic States are, Tallinn in Estonia, Riga, Ventspils and Liepaja in Latvia, and Klaipeda in Lithuania (see Appendix 2). Like Finland the containers in the Baltic States ports arrive in small feeder vessels from the main North European hub ports, such as Bremen, Hamburg, and Rotterdam¹⁰⁰. This means actually that the Baltic States ports are not only the main gateway providers for Russia but also for all the CIS States¹⁰¹. Moreover, Table 4.1 provides a detailed presentation of the Baltic States port's facilities.

Figure 4.4

The Port Infrastructure in the Baltic States' Ports



Source: <http://inweb18.worldbank.org>, 2000

⁹⁹ Port Development International, (1998), 'Baltic Bulls', March.

¹⁰⁰ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp.14, Master of Science in International Logistics, Published by the University of Plymouth.

¹⁰¹ Containerisation International, (2001), 'Baltic Battlefield', January.

Table 4.1

The Main Baltic States Container Ports and their Facilities

Name of Port	Port Facilities	Port Support Facilities
Tallinn	<ul style="list-style-type: none"> ♦ 409.4 ha Territory ♦ 4028 m Total Quay length ♦ 17.4 m Maximum depth ♦ 158 000 m² Container terminal area ♦ 253 400 m² Open storage area ♦ 89 500 m² Covered warehouse area ♦ 200 000 TEU Annual capacity 	<ul style="list-style-type: none"> ♦ 21 Quays ♦ 23 Terminal operators ♦ 19 Cranes ♦ 1 Floating crane ♦ 12 Forklifts
Riga	<ul style="list-style-type: none"> ♦ 438 ha Territory ♦ 337.6 m Total Quay length ♦ 6.4 to 10 m Maximum depth ♦ 250 000 m² Container terminal area ♦ 250 000 TEU Annual capacity ♦ 329 100 ♦ 66 350 m² Covered warehouse area 	<ul style="list-style-type: none"> ♦ 21 Berths ♦ 41 Portal cranes ♦ 2 Floating cranes ♦ 10 Container cranes ♦ 30 tug masters ♦ 30 Terminal operators
Ventspils	<ul style="list-style-type: none"> ♦ 450 ha Territory ♦ 254 m Total Quay length ♦ 15 ha Container terminal area ♦ 150 000 TEU Annual capacity ♦ 300 m Total Quay length ♦ 14.2 m Maximum depth ♦ 5 200 m² Covered warehouse area for containers ♦ 190 000 m² Open storage area ♦ 85 000 m² Covered warehouse area 	<ul style="list-style-type: none"> ♦ 16 Berths ♦ 10 Cranes ♦ 4 Reach stackers ♦ 5 Sisu tractors ♦ 6 Lift trucks ♦ 1 Multimodal train shunter ♦ 5 Skeletals ♦ 5 Roll trailers
Liepaja	<ul style="list-style-type: none"> ♦ 372 ha Territory ♦ 9.5 Maximum depth ♦ 7000 m Total quay length ♦ 7 millions tons Port capacity ♦ 371 000 m² Open storage area ♦ 54 000 m² Covered warehouse area ♦ 50 000 TEU Annual Capacity 	<ul style="list-style-type: none"> ♦ 22 Cranes ♦ 1 Floating crane ♦ 2 Mobile cranes ♦ 15 Forklifts ♦ 7 Terminal tractors ♦ 26 Port operators
Klaipeda	<ul style="list-style-type: none"> ♦ 415 ha Territory ♦ 307 000 m² Container terminal area ♦ 258 000 m² Open storage area ♦ 74 900 m² Covered warehouse area ♦ 150 000 TEU Annual capacity ♦ 19 216 m Total quay length 	<ul style="list-style-type: none"> ♦ 18 Berths ♦ 8 to 14 m Maximum depth ♦ 20 cranes ♦ 2 Gantry cranes ♦ 8 Tractors ♦ 10 Forklifts ♦ 20 Port operators
Source: Leaflets provided by the ports of: Tallinn, Riga, Ventspils, Liepaja, and Klapeda.		

4.10.1 Port of Tallinn

The port of Tallinn in Estonia is very well placed geographically to provide east-west and north-south container transit¹⁰². Moreover, the port of Tallinn consists of four harbours; the Old City Harbour, Muuga Harbour, Paljassaare Harbour, and Paldiski South Harbour¹⁰³.

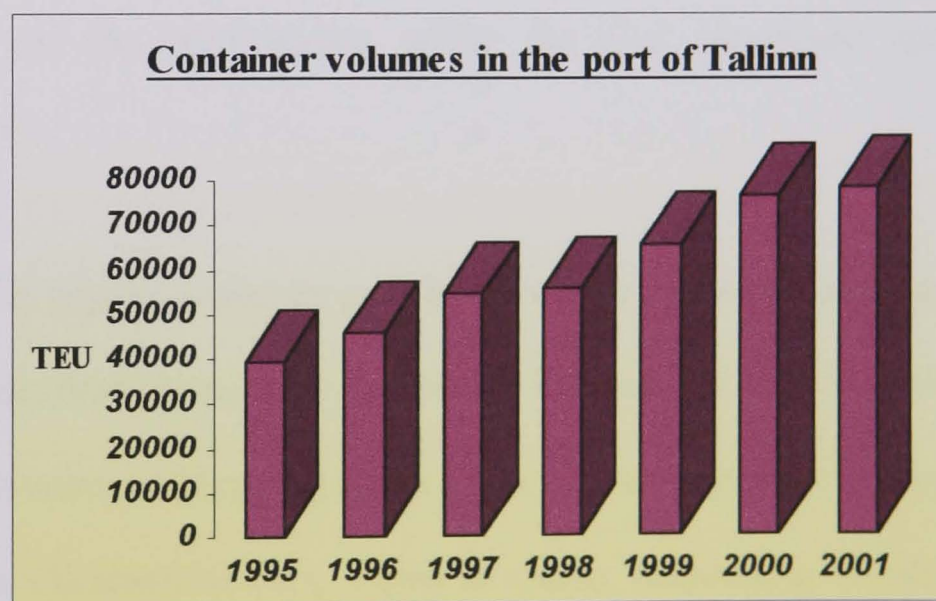
There are two container terminals in the port, one located in Muuga Harbour is under the private ownership of the Ferry Terminal; and the second container terminal is located in the Old City Harbour and is currently operated by the private owned company, HTG-Invest¹⁰⁴. According to the port authority, a new container terminal opened in May of 2001 in Muuga Harbour, which has capacity to handle up to 140,000 TEU per year¹⁰⁵.

Nevertheless, the final capacity of the port is estimated to reach 250,000 TEU, when the project is finished¹⁰⁶. The new container terminal was financed 50% from port cash flow, and 50% by Europe Containers Terminals (ECT) located in Rotterdam, and other Estonian logistics groups¹⁰⁷. In addition, the port authority of Tallinn seeks to build a joint venture with the railways and the port

operators in order to promote the Estonian container transit corridor using modern technology and marketing possibilities in order to establish the reliability of the container transit corridor¹⁰⁸.

Figure 4.5

Container Traffic in the Port of Tallinn



Source: <http://www.portoftallinn.com>

¹⁰² <http://www.portoftallinn.com>

¹⁰³ <http://www.mac.doc.ceeibic/marketresearch/estonia>

¹⁰⁴ Cargo Systems, (2000), 'The Baltic Stays Buoyant', April.

¹⁰⁵ <http://www.portoftallinn.com>

¹⁰⁶ Cargo Systems, (2000), 'The Baltic Stays Buoyant', April.

¹⁰⁷ Lloyd's Shipping Management, (2001), 'Tallinn Report', July/August.

¹⁰⁸ Ministry of Finance, (2002), 'Tallinn Performance 2002' Estonia.

The port of Tallinn has modern facilities and the sea by the quays is deep and ice-free during the winter period¹⁰⁹. However, the most attractive features to customers are the economic advantages that the port offers, such as a customs free zone and zero percent corporate tax¹¹⁰. The port of Tallinn has more competitive duty prices than St. Petersburg port. More specifically, the duty imposed for container ships in the port of Tallinn is 38.9% lower than in St. Petersburg¹¹¹.

In addition, the port of Tallinn cargo turnover has indicated an increasing container trend every year. One should be aware that the movement of containers in the port of Tallinn is the most noticeable feature in the development of cargo handling¹¹². This can be seen when examining the changes in the development of containers via the port during the last eight years. For example, the volume of container traffic has grown from 32,500 TEU in 1994 to 78,072 TEU in 2001¹¹³.

4.10.2 Port of Riga

Latvia has three large ports, Ventspils, Riga, and Liepaja. All of the ports' lands including the quays belong to the state or the Municipality; whilst the port equipment and warehouses are privately owned¹¹⁴.

Out of the three ports, Riga is the largest container port in Latvia, in terms of container volumes, and lies in the delta of the river Daugava¹¹⁵. The port is ice-free and covers a vast area of 2,500 hectares with 10,500 metres of berthing space and a 12-metre draught¹¹⁶. The port of Riga also embraces Riga Commercial Port, which is mainly responsible for the

¹⁰⁹ <http://www.mac.doc.gov/ceebic/investmentprofile/estonia/pdf>

¹¹⁰ <http://www.portoftallinn.com>

¹¹¹ http://www.baltkurs.com/english/archive/fall_2001/ports.htm

¹¹² <http://www.baltictimes.com/zSports.htm>

¹¹³ <http://www.portoftallinn.com>

¹¹⁴ <http://www.itl.rtu.lv/transp/ports.html>

¹¹⁵ Latvian Development Agency, (1998), Latvia.

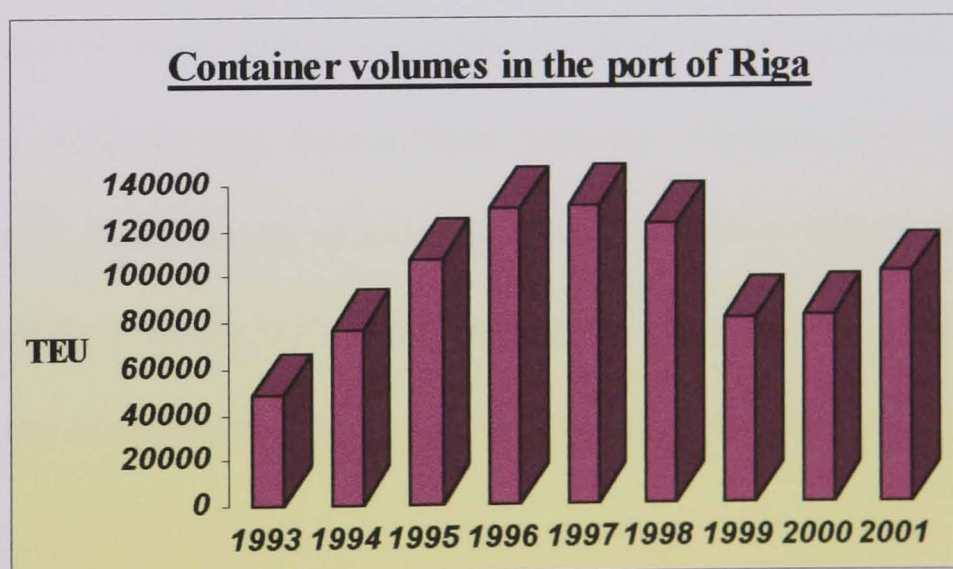
¹¹⁶ <http://www.rop.lv>

handling of container traffic¹¹⁷. The port of Riga is one of the nearest ports to Moscow and provides a regular container block train between Riga Commercial Port and Moscow Container Terminal¹¹⁸.

In 1996 the Latvian government adopted a law, declaring the establishment of a free trade zone within the Riga Commercial Port¹¹⁹. Since then, Riga Commercial Free Port has established a specific economic regime within the free port area, including, tax benefits, flexibility of customs regime, and efficient services¹²⁰. Furthermore, Riga port authority plans to develop the left bank of the river Daugava and to improve and develop rail connections throughout the port area¹²¹. Although, Riga Commercial Free Port belongs to the State, the container terminal within the port area is privately owned and operated by Baltic Container Terminal Ltd. (BCT)¹²². Moreover, there are a number of major shipping lines that operate in the BCT including Maersk-Sea Land, P & O Nedlloyd, KNSM, Maras Line, and Latvian Shipping.

The Baltic Container Terminal has a capacity of handling up to 350,000 TEU per year¹²³. In the past, the volume of containers increased considerably to 131,156 TEU in 1997¹²⁴. Figure 4.6, illustrates the

Figure 4.6
Container Traffic in the Port of Riga



Source: <http://www.rto.lv/rigacommercialfreeport>

¹¹⁷ <http://www.rto.lv/RigaCommercialFreePort.htm>

¹¹⁸ Latvian Development Agency, (1998), Latvia.

¹¹⁹ <http://www.itl.rtu.lv.transp/ports.html>

¹²⁰ <http://www.rto.lv/RigaCommercialFreePort.htm>

¹²¹ Lloyd's List, (2000), 'Riga Freeport Gets go Ahead for Expansion', June 28.

¹²² Port Development International, (1997), 'Riga Commercial Port Gains Free Port Status', June.

¹²³ <http://www.bct.lv/facilities.htm>

¹²⁴ http://www.ci-online.co.uk/ports/portdetails.asp?PA_ID=1166

containers from 1994 until 2001.

Overall, when one examines the past history of Riga port, one can see that this port was established as a major container port in the Baltic Region prior to the collapse of the Soviet Union¹²⁵. For years Riga was the transit point for Japanese container traffic originating in the Russian Far East and more specifically the port of Nakhodka¹²⁶.

Therefore, based on past experience, the port authority of Riga aims to establish Riga container terminal as the best route for European exporters whose containers are bound for Japan or even China¹²⁷. However, to attract more European exporters, the port would have to offer to potential customers attractive offers, such as reducing almost by half the duration of the trip¹²⁸. This could be achieved by choosing a faster route from Riga to Japan or China, which could be by rail connection to Moscow and from there to the Trans Siberian Railway.

4.10.3 Port of Ventspils

The port of Ventspils is the largest port in Latvia specialising in oil, chemicals and bulk cargo¹²⁹. However, by 2000 a new privately owned container terminal was constructed in the port of Ventspils¹³⁰. In June 2000 the SIA Noord Natie Ventspils Terminal (NNVT) started its operations in the port¹³¹. The Belgian stevedoring company Noord Natie holds 40% stake of the NNVT while the remaining 60% stake belongs to a number of Latvian shareholders¹³². By 2002 only the first phase of the construction has been completed¹³³.

¹²⁵ Buchhofer, E., (1995), 'Transport Infrastructure in the Baltic States During the Transformation to Market Economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

¹²⁶ <http://www.lupinfo.com/country-guide-study/latvia/latvia23.html>

¹²⁷ Port of Riga, (2001), February.

¹²⁸ <http://www.infomare.it/news/review/2000/nytimes0048.asp>

¹²⁹ Port of Ventspils, (2000).

¹³⁰ http://www.ramboll.dk/transport/uk/transport/latvia_ew.htm

¹³¹ Port Development International, (2000), 'Noord Natie Launches Latvian Operation', June.

¹³² <http://www.mac.doc.gov/cee/bic/investmentprofile/latvia/pdf>

¹³³ <http://www.nnvt.lv>

The new container terminal has the capacity of handling up to 150,000 TEU per year¹³⁴. However, it is estimated that when the second phase of construction is completed by the end of 2003 or even later, the capacity will increase to 250,000 TEU per year¹³⁵.

The NNVT is a newly established container terminal that provides modern mobile equipment and offers to potential customers 0% customs duty, excise tax and VAT¹³⁶. In addition, the container port can offer very good transport connections by rail and road to Russia and other CIS countries¹³⁷. Although, the port started its operations in 2000, it has been reported by the manager of the port of Riga that the newly established container terminal in Ventspils has very little container traffic¹³⁸. Unfortunately, it has been very difficult to establish if such rumours for Ventspils container port are true, since it was very difficult to obtain any relevant data for the movement of containers in the port. However, the port has the potential and the infrastructural facilities to attract containers in the future¹³⁹.

4.10.4 Port of Liepaja

The port of Liepaja, was used as a military base during the Soviet era¹⁴⁰. Nevertheless, in 1992 the port re-opened for commercial activities¹⁴¹. The ice-free port of Liepaja is a fast growing port, which according to experts of the region can become a participant in the race for Russian containers¹⁴². The rapid growth of Liepaja started in 1997 when the Law on the Liepaja Special Economic Zone was adopted¹⁴³. The main cargoes handled in the port of Liepaja are containers, RO-RO cargoes, metal and timber¹⁴⁴. The port has attracted a lot of foreign investment including stevedoring companies and the main project at the moment is

¹³⁴ <http://www.nnvt.lv>

¹³⁵ <http://www.ventspils.lv>

¹³⁶ <http://www.nnvt.lv>

¹³⁷ Port of Ventspils, (2001), February.

¹³⁸ Port of Ventspils, (2001), February.

¹³⁹ Development Agency, (2001)Latvia.

¹⁴⁰ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk.

¹⁴¹ <http://www.lsez.lv>

¹⁴² <http://www.baltictimes.com/zSports.htm>

¹⁴³ <http://www.lda.gov.lv/liepaja>

¹⁴⁴ Aivars, Boja, (2001), General Manager of Liepaja Port.

the development of the port's infrastructure¹⁴⁵. Currently 18% of the total cargo handled in the port is containers¹⁴⁶. More specifically, in 2000, there were 501,000 thousand tonnes of containers handled in the port¹⁴⁷, and there is a lot of potential for further increase¹⁴⁸.

4.10.5 Port of Klaipeda

Lithuania has a strategic location between the larger Polish and Russian market and possesses many of the basic requirements for a successful transit center¹⁴⁹. Lithuania's main port is Klaipeda, which in the last few years has adopted a special economic zone regime providing tax reductions to its customer's¹⁵⁰. Klaipeda is a gradually developing port that has received funding from the EBRD and the European Investment Bank in order to finance major upgrades and expansion projects¹⁵¹. In addition, the port has an ice-free status and the waters do not freeze even at -25 Celsius degrees¹⁵². Like the other Baltic States ports, Klaipeda is a landlord port, where the land is owned by the state and private owned companies run the operations within the port area¹⁵³. As far as containers are concerned, there are a number of privately owned stevedoring companies that operate within the port and provide modern equipment and efficient services¹⁵⁴. The most important stevedoring company for containers is the Klaipeda Stevedoring Company (Klasco)¹⁵⁵. Klasco container terminal was constructed in 1997 and is one of the most modern container terminals in the Baltic Sea region and has the capacity of handling up to 150,000 TEU per year¹⁵⁶. This container terminal occupies an area of 229,207 square meters and provides railway tracks, modern cranes motor vehicles lanes and a reserved

¹⁴⁵ <http://www.liepaja-sez.lv/proc5.html>

¹⁴⁶ Port of Liepaja statistics, (2000).

¹⁴⁷ Port of Liepaja statistics, (2000).

¹⁴⁸ European Bank of Reconstruction and Development, (2001).

¹⁴⁹ Canfield, J., L., (1993), 'Independent Baltic State Ports: The Outlook for Commercial Viability', Maritime Policy and Management Vol. 20, No. 2., PP. 133-152.

¹⁵⁰ <http://www.spk.lt>

¹⁵¹ European Bank of Reconstruction and Development, (2001).

¹⁵² Port of Klaipeda brochure, (2001).

¹⁵³ European Bank of Reconstruction and Development, (2001).

¹⁵⁴ Jura Magazine, Issue 2001, ¾, 'Klaipeda Port Seems to Be Attractive and Interesting for Foreign Partners', May.

¹⁵⁵ Port of Klaipeda brochure, (2001).

¹⁵⁶ Port development International, (1998), 'Acquisitions and Disposals', January/February.

area for further extension up to 78,000 square meters¹⁵⁷. Vessels that arrive at this container terminal include those from Rotterdam, Antwerp, Felixstowe, Hull, Hamburg, Bremerhaven and Kaliningrad, ports¹⁵⁸.

Furthermore, there is the Consortium Klaipėdos Terminalas which is one of the largest stevedoring operators of containers in the port of Klaipėda¹⁵⁹. In the last two years the volume of containers has increased considerably and indications are that this growth will continue for the years to

follow¹⁶⁰. Figure 4.7

illustrates the gradual

increase in the movement

of containers from 1997 to

October 2001¹⁶¹. So far,

the situation in the Baltic

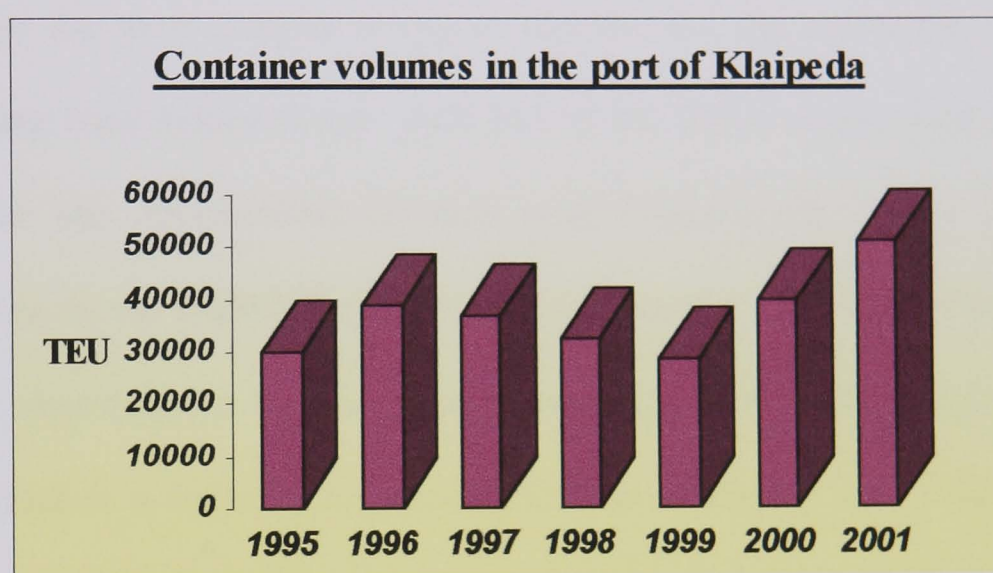
States ports has been

presented and it has been

established that these ports

Figure 4.7

Container Traffic in the Port of Klaipėda



Source: <http://www.spk.lt>

have the capacity and the infrastructure to compete with Finnish ports for the containers

that originate from Russia, but mainly for containers that move via the Trans Siberian

Railway. The Baltic States ports have been used in the late 1970's for the movement of

containers that travel from Far East and via the Trans Siberian Line¹⁶². In addition all ports

have railway connections to the main railway lines to Moscow and from there to the

TSR¹⁶³. Currently the three main ports of Tallinn, Riga and Klaipėda handle 15%-20% of

¹⁵⁷ Klasco brochure, (2001).

¹⁵⁸ Juozas, Ciciunas, (2001), Klasco, February.

¹⁵⁹ Port of Klaipėda brochure, 2001.

¹⁶⁰ Carter, M., (2000), Country Director for Estonia, Latvia, Lithuania and Poland, Europe and Central Asian Region, World Bank.

¹⁶¹ http://www.ci-online.co.uk/ports/portdetails.asp?PA_ID=816

¹⁶² Queiroz, C., (2001), 'Major Trends in the Transport Sector and Impact on the Baltic States' Trans Baltica 2001 International Conference, June.

¹⁶³ Port of Tallinn, Riga, Klaipėda, (2001).

the total 500,000-600,000 Russian containers¹⁶⁴, and another 15%-20% of the containers in transit via the Trans Siberian Railway¹⁶⁵. Likewise, according to EU forecasts in the coming years the Baltic region is going to be one of the fastest developing regions in Europe¹⁶⁶. More specifically, these forecasts indicate that international trade of the Eastern Baltic will increase 2.0-2.5 times¹⁶⁷.

4.11 Road infrastructure

As mentioned in the previous chapter, the road infrastructure in the Baltic States was in a very poor condition even under the Soviet Union era¹⁶⁸. Much attention was given to the rail infrastructure since it was the most popular transport corridor for the movement of Soviet cargo¹⁶⁹. After regaining their independence, each one of the Baltic States tried to adopt a number of plans for the development of their road infrastructure, either by subsidies or in the form of loan by the EBRD¹⁷⁰ (See Figure 4.8). In the last decade there has been improvement and development of the road networks in the Baltic States, including the Via Baltica, which is a highway connecting Finland (Helsinki) and Poland (Warsaw) via Estonia, Latvia and Lithuania¹⁷¹. However, international road traffic has to rely on a road system badly maintained and of rather regional nature and design standard¹⁷². Although, railways are still the predominant means of transport for most cargo, when it comes to containers, the road network is the most widely used, even if the quality of the road network is still inadequate¹⁷³. Generally when one looks at the trade pattern all over Europe, it is noticeable that in the last decade, roads have become the predominant

¹⁶⁴ Lloyd's List, (2001), 'Russian Containers Transportation Volume in Line for Massive Growth', June 29.

¹⁶⁵ Lukov, N., E., (2000), Secretariat of the Coordinating Council on Trans Siberian Transportation, June.

¹⁶⁶ Carter, M., (2000), Country Director for Estonia, Latvia, Lithuania and Poland, Europe and Central Asian Region, World Bank.

¹⁶⁷ Cargo Systems, (2000), 'The Baltic Stays Buoyant', April.

¹⁶⁸ Cullinane, K., and Toy, N., (1998), "Planned Road Network Developments in the Baltic Sea Region". Transportation Reviews, Vol. 18, No. 1, pp.35-55.

¹⁶⁹ Buchhofer, E., (1995), 'Transport Infrastructure in the Baltic States During the Transformation to Market Economies', Journal of Transport Geography, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

¹⁷⁰ European Bank of Reconstruction and Development, (2001).

¹⁷¹ <http://www.tradepartners.gov.uk/infrastructure/estonia/profile/overview.shtml>

¹⁷² <http://www.vasab.org.pl/Public/TallinReport/part2.2.html>

¹⁷³ Person, G., and Backman, L., (1996), 'Logistics in Eastern Europe', Logistics and Transportation Review, Volume 29, No. 4, pp. 319-327.

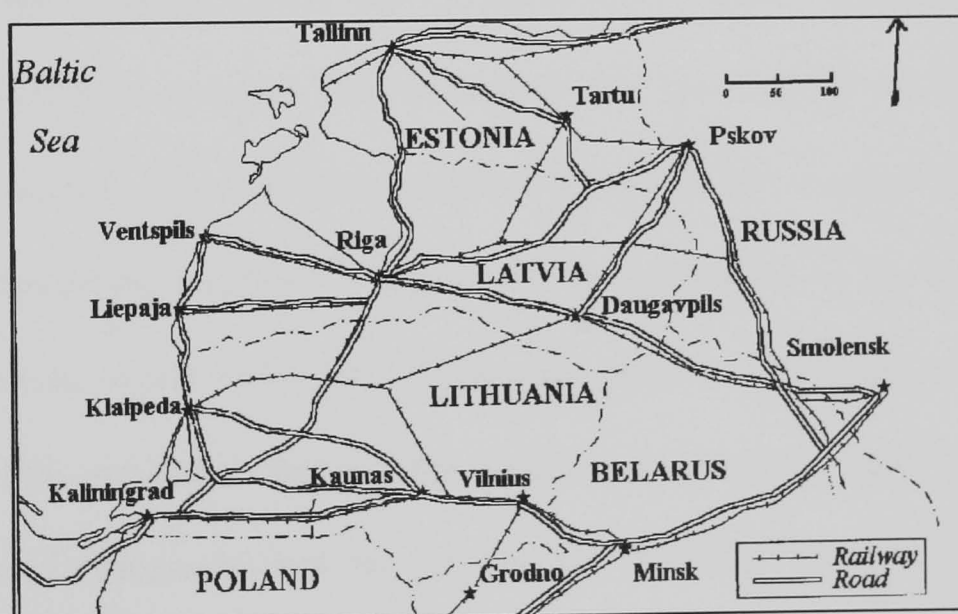
means of transport¹⁷⁴. However, while containers are moved by road there are a number of disadvantages, like long delays, theft, and long queues at the borders¹⁷⁵. In addition, heavy trucks carrying goods damage the tar in the highways and generally motor transport is environmentally problematic. Also from the economic point of view road transport is less effective than railway transport, due to the fact that vehicles spend three times more energy to move the same cargo as railways¹⁷⁶. Therefore, for the reasons mentioned above, the European Union has tended to promote in the last few years the rail network over the road networks¹⁷⁷. In addition, since this project is concerned with the movement of containers via the TSR, most emphasis will be placed upon the Baltic States railway infrastructure.

4.12 Rail Infrastructure

During the Soviet era the railway network in the Baltic States developed in order to facilitate Soviet trade¹⁷⁸. All three countries of Estonia, Lithuania, and Latvia provide railway connections between their ports and Moscow in Russia¹⁷⁹ (See Figure

Figure 4.8

Transport connections Between the Baltic States and Russia



Source: Brodin, A., (2000), 'Ports in Transition in Countries in Transition, pp.107, Published by Parajett AB Landskrona, Sweden.

¹⁷⁴ <http://www.europa.eu.com>

¹⁷⁵ <http://www.randburg.com>

¹⁷⁶ Lijewski, T., (1996), 'The Impact of Political Changes on Transport in Central and Eastern Europe', *Transport Reviews*, Vol. 16, No. 1, pp 37-53.

¹⁷⁷ Lijewski, T., (1996), 'The Impact of Political Changes on Transport in Central and Eastern Europe', *Transport Reviews*, Vol. 16, No. 1, 37-53.

¹⁷⁸ Buchhofer, E., (1995), 'Transport Infrastructure in the Baltic States During the Transformation to Market Economies', *Journal of Transport Geography*, Vol. 3, No. 1, pp. 69-75, Published by Butterworth Heinemann, London.

¹⁷⁹ European Bank for Reconstruction and Development, (2001).

4.8). However, it remains the case that the railway network in the Baltic States is not compatible with other railway networks in Europe¹⁸⁰. After the collapse of the Soviet Union, the railway systems in all three Baltic States lost their advantage over the road systems due to poor infrastructure and lack of investments¹⁸¹. In addition, Estonia has a single main railway line connection compared to the double line of Latvia and Lithuania¹⁸². Nevertheless, Estonia is the first country out of the three that has privatised its railways¹⁸³. All Baltic States have the advantage of having the same rail gauge with Russia, which means that there is no need to reload containers to different wagons at the borders¹⁸⁴. Likewise, the Baltic States in the light of the increasing volumes of containers in Russia and the TSR have focused on improving, developing and modernising their rail infrastructure¹⁸⁵. Experts in the railway network of the three countries state that they are determined to compete with Finland for Russian containers and containers that move via the TSR¹⁸⁶. Currently, only 15-20% of the containers in transit via the TSR are handled by the Baltic States¹⁸⁷. However, Estonia, Latvia and Lithuania have reduced rail tariffs and are closely co-operating in order to re-route TSR containers that currently are handled by the Finnish Railway¹⁸⁸. In addition, the Lithuanian railway operators are a member of the CCTST with the aim of establishing uniform¹⁸⁹. Moreover, the secretariat of the CCTST, when asked about the potential of the Baltic States ports as gateways for containers that move via the TSR, stated that the Baltic States ports could attract higher volumes of the steadily increased volumes of containers that are moving via the TSR¹⁹⁰. At present, it takes 15-18 days to carry a container from the port of Vostochny via the TSR and to the

¹⁸⁰ Lijewski, T., (1996), 'The Impact of Political Changes on Transport in Central and Eastern Europe', *Transport Reviews*, Vol. 16, No. 1, pp. 37-53.

¹⁸¹ TranBaltica 2001, VI International Conference, Riga, Latvia, June 7-8.

¹⁸² Estonian Railways, (2001).

¹⁸³ <http://www.cnn.com/2001/WORLD/europe/05/09/estonia.railway>

¹⁸⁴ The European Union's Regional Group on Ports and Maritime Transport in the Baltic Sea, (1995), 'Strategic Study of Ports and Maritime Transport in the Baltic Sea', Published by Cowiconsult.

¹⁸⁵ http://www.baltkurs/english/archive/fall_2001/industry.htm

¹⁸⁶ TranBaltica 2001, VI International Conference, (2001), Riga, Latvia, June 7-8.

¹⁸⁷ Lukov, N., E., (2000), Secretariat of the Coordinating Council on Trans Siberian Transportation, June.

¹⁸⁸ <http://www.baltasam.org/10gade/report.html>

¹⁸⁹ CCTST brochure, (2001).

¹⁹⁰ Lukov, N., E., (2000), Secretariat of the Coordinating Council on Trans Siberian Transportation, June.

Baltic States ports¹⁹¹. At this point it should be emphasized that when it comes to tariffs, the railways of the Baltic States offer three times lower tariffs than the Finnish railways¹⁹².

4.13 Transit times of the Baltic States route

The transit times to the three Baltic States ports from Moscow are basically the same as for the Finnish route. Based on information obtained from Containerisation International in 1997 the transit times for containers moving between Rotterdam and Moscow were: 7-10 days via the port of Klaipeda, 10 days via the port of Tallinn and 9-11 days via Riga¹⁹³. One could assume that these times may have been slightly reduced due to the development of faster vessels and the reduction of the time consumed on border formalities since 1997¹⁹⁴. The Baltic States try to co-operate closely in order to reduce delays at borders, and especially Lithuania where there is an extra border, that with Latvia or Byelorussia¹⁹⁵. In addition, the transit time for containers coming via the TSR to the Baltic States ports via railway is between 15-18 days¹⁹⁶.

4.14 Advantages of the Baltic States route

The most important advantage of the Baltic States route is related to the lower cost level¹⁹⁷. When compared to the Finnish ports, one can see that the Baltic States ports offer 20-25% lower tariff for the movement of containers¹⁹⁸. Likewise, the Baltic States rail networks charge three times less tariff to customers for the movement of containers via the railways¹⁹⁹. Although, there are several factors that can contribute to the choice of a

¹⁹¹ Helmer, J, (1999), 'Moller Weights Future of Russian Intermodal Route', Journal of Commerce, August 2.

¹⁹² http://www.baltkurs/english/archive/fall_2001/industry.htm

¹⁹³ Containerisation International, (1997), pp. 56, January.

¹⁹⁴ TranBaltica 2001, VI International Conference, (2001), Riga, Latvia, June 7-8.

¹⁹⁵ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp.14, Master of Science in International Logistics, Published by the University of Plymouth.

¹⁹⁶ <http://www.vics.ru/english/News/news27.htm>

¹⁹⁷ <http://www.vasab.org.pl/public.tallinReport/part2.2.html>.

¹⁹⁸ Port Development International, (2001), 'Battle of the Baltic', May.

¹⁹⁹ http://www.baltkurs/english/archive/fall_2001/industry.htm

transport route, customers commonly seek nowadays the lowest tariffs, in order to achieve higher income.

In the past few years the Baltic States ports started to gain a reputation for reliability, while maintaining a cost edge over the Finnish route²⁰⁰. Future projects in the Baltic States ports aim to gain customer's trust and cargo. In addition, the Baltic States governments have taken loans from the EBRD in order to improve and develop the railway network, since it is faster and complies with the EU preference towards promoting railways²⁰¹.

4.15 Disadvantages of the Baltic States route

The disadvantages of the Baltic States route are mainly related to past reputation concerning the poor level of security and cargo handling in the Baltic States ports²⁰². However, the privatisation of cargo handling operations in the ports and introduction of modern equipment has changed this poor perception²⁰³. In addition, the involvement of major container lines in the Baltic States ports, like Maersk-Sealand and P&O Nedlloyd, indicates that these ports have managed to steer away from their old negative reputation, and regain the trust of customers²⁰⁴.

Another disadvantage of this route is the complicated political relationship between Russia and the Baltic States²⁰⁵. After the collapse of the Soviet Union, Russia lost much influence over the Baltic States²⁰⁶. Since then Russia has attempted to retain control over the Baltic States, by stopping the supply of energy to these countries, or in more recent years by

²⁰⁰ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp.14, Master of Science in International Logistics, Published by the University of Plymouth.

²⁰¹ European Bank for Reconstruction and Development, (2001).

²⁰² TranBaltica 2001, VI International Conference, (2001), Riga, Latvia June 7-8.

²⁰³ Carter, M., (2000), Country Director for Estonia, Latvia, Lithuania and Poland, Europe and Central Asian Region, World Bank.

²⁰⁴ Port of Riga, (2001), February.

²⁰⁵ Gros, D., and Steinherr, A., (1995), 'Economic Transition in Central and Eastern Europe', Published by Longman, London.

²⁰⁶ Canfield, J., I., (1993), 'Independent Baltic State Ports: The Outlook for Commercial Viability', Maritime Policy and Management, Vol. 20, No. 2, pp. 133-152.

increasing tariffs²⁰⁷. However, since then both sides have started to realise that they rely on one another and in the last two years tried to improve political and trade relations²⁰⁸.

4.16 Conclusion

Based on the information provided in this chapter, one could say that, the Baltic States' route has the infrastructural capability to compete with the Finnish route, although further development of both its organisation and infrastructure is required. However, as the next chapter indicates, there are a number of external factors that can influence or even determine the potential that the Baltic States' route has in the near future.

²⁰⁷ Bugajski, Z., (2002), 'Russian Interests in the New Eastern Europe', Published by the University of Washington.

²⁰⁸ Data derived by the European Bank for Regional Development, (2001).

CHAPTER FIVE

THE DOMINANT FUTURE FACTORS OF THE BALTIC STATES GATEWAY MARKET

5.0 Introduction

There are several factors that can further determine the future position of the Baltic States of Estonia, Latvia and Lithuania in the Baltic Sea gateway market. However, among these, there are two factors that have the most important impact. These two factors are, the European Union (EU) and its policies, and the development of Russian ports in the Baltic Sea region. The aim of this chapter is to analyse the effect that the European Union and its policies would have upon the Baltic State's transport networks, once the three States join the EU, and the effect that the development of the existing or proposed Russian ports in the Baltic Sea would have upon the future of the Baltic States as a gateway market.

5.1 The European Union

The European Union was first formed in 1957 under the name of the European Economic Community (EEC)¹. The six countries initially included in the EEC (West Germany, France, Italy, Netherlands, Belgium, Luxemburg), signed a Common Free Trade agreement, which included Community-wide programmes, financed by fiscal contributions from member Governments². Over the next four decades the EEC accepted more members, including, Denmark, Finland, Ireland, UK, Spain, Portugal and Greece³. In the 1980's the EEC underwent some major changes, the most important of which were: the renaming of the European Economic Community to European Community and the decision of the EC

¹ Church, C., H., Phinnemore, D., (1994), 'European Union and European Community', Published by Redwood Books, Wiltshire, UK.

² Begg, D., Fisher, S., Dornbusch, R., (1997), 'Economics', 5th Edition, Published by McGraw-Hill Book Company.

³ <http://www.Europa.eu.int>

to move towards promoting harmonizing policies⁴. The first major step taken towards harmonization was the ratification of the Single European Act in 1987⁵. The main objectives outlined by this Act were:

‘To abolish the foreign exchange controls on capital flows; to remove all non-tariff barriers to trade within the EC; to eliminate the bias in public sector purchasing favouring domestic producers; to remove the frontier controls; and to progress towards harmonisation of tax rates’⁶.

However, in 1992 one of the most important steps for the development of the EC was taken, when the Maastricht Treaty or the Treaty on the European Union was signed. The aim of the European Union as it was outlined in the Treaty on the European Union was:

‘To promote a harmonious and balanced development of economic activities, sustainable and non-inflammatory growth respecting the environment, a high degree of convergence of economic performance, a high level of employment and social protection, the raising of the standard of living and quality of life, and economic and social cohesion and solidarity amongst members’⁷.

In the years to follow the successful development in all sectors of the European Union became:

‘An exemplary form of voluntary interstate co-operation of previously unknown scope and closeness’⁸.

The integration of the Baltic States in the European Union is an issue that has generated a great deal of activity in the last decade. However, the integration of the Baltic States transport markets is, in essence, a fundamental condition for the development of trade

⁴ Begg, D., Fisher, S., Dornbusch, R., (1997), ‘Economics’, 5th Edition, Published by McGraw-Hill Book Company.

⁵ Church, C., H., Phinnemore, D., (1994), ‘European Union and European Community’, Published by Redwood Books, Wiltshire, UK.

⁶ Begg, D., Fisher, S., Dornbusch, R., (1997), ‘Economics’, pp. 35, 5th Edition, Published by McGraw-Hill Book Company.

⁷ The Treaty on European Union, Article 2.

⁸ Lithuania in the World, (2000), ‘The European Union from the Lithuanian perspective’, Vol. 8, No. 6, pp. 9.

relations within Europe and of economic activity⁹. According to the terms of the Resolution on Access to European Transport Markets, adopted in Vienna in 1995:

‘The establishment of transport links between East and West, offering fair and equitable access to transport markets, is essential for the integration of transition countries into Europe’¹⁰.

Therefore, it is very important at this point to analyse any transport policies that have been introduced by the European Union and which may have an impact upon the Baltic States transport market.

5.1.1 The Common Transport Policy

The Treaty of Rome, signed in 1956, called for a Common Transport Policy, and introduced a very broad framework for co-operation, without though mentioning the specific tasks in relation to infrastructure or the different modes¹¹. However, as the CTP started to develop in the 1970’s, the need to identify infrastructure investments of common interest became apparent. Therefore, in 1975 the European Regional Development Fund (ERDF) was formed, in order to support any transport infrastructure developments in remote areas and regions that were lagging behind¹². Nevertheless, only the Maastricht Treaty in 1992 brought real change by entitling the European Commission to establish the guidelines for the identifications of projects that will benefit all the Community’s interest¹³. The Common Transport Policy is thus one of the most important policies of the European Union. The main objectives set in the CTP are¹⁴:

⁹ European Conference of Ministers of Transport (ECMT), (2000).

¹⁰ European Conference of Ministers of Transport (ECMT), (2000), pp. 9.

¹¹ Paper presented in the ECMT in 2001 in Paris and extracted from the draft IRU (International Railways Union) Manual on Road Transport Integration, 3rd Edition.

¹² Paper presented in the ECMT in 2001 in Paris and extracted from the draft IRU (International Railways Union) Manual on Road Transport Integration, 3rd Edition.

¹³ Paper presented in the ECMT in 2001 in Paris and extracted from the draft IRU (International Railways Union) Manual on Road Transport Integration, 3rd Edition.

¹⁴ Suchorzewski, W., (2001), European Conference of Ministers of Transport, Published by Warsaw University of Technology, Poland.

- ♦ The establishment of Trans-European Networks.
- ♦ The integration of the transport system with emphasis on measures which could help to switch part of the transport flow from the road to less polluting and underused modes.
- ♦ Protecting the environment through standards, taxation etc.
- ♦ Improved safety.
- ♦ Social safeguards for all transport modes to avoid unfair competition and lowering operating standards.
- ♦ Strengthening the internal market through applying the liberalisation and harmonisation measures.
- ♦ Reinforcement of the external dimension of the single market.

Out of these the most important objective of the CTP is to sustain mobility in line with environmental awareness¹⁵. Due to the fact that different modes of transport have different impacts on the environment, the EU believes that by promoting the environmental friendly modes of transport (sea, railways), it can improve the transport system's performance as a whole¹⁶.

To meet these objectives, the European Union adopted in 1995, an action programme for the period 1995-2000 which was eventually replaced with a new action programme for the period 1998-2004¹⁷. The programme consisted of a number of policies and actions related to three fundamental areas¹⁸:

¹⁵ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', Master of Science in International Logistics, published by the University of Plymouth.

¹⁶ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', Master of Science in International Logistics, published by the University of Plymouth.

¹⁷ Suchorzewski, W., (2001), European Conference of Ministers of Transport, Published by Warsaw University of Technology, Poland.

¹⁸ The Document Library of the European Council, (<http://www.cordis.lu/egi/node.pl>).

- ♦ Developing integrated transport systems that contribute to environmental safety and economic objectives in order to achieve improved quality.
- ♦ Promoting more efficient services.
- ♦ Improving transport links with third countries and so broadening the external dimension of the EU.

The CTP policy issues that might in particular influence the future of the Baltic States as a gateway market are: the combined transport policy, the Trans-European Network policy; the Railway Directives 91/440 EC, 95/18 EC, 95/19 EC, and 2001/12 EC, 2001/13 EC, 2001/14 EC; and the Fair and Efficient Pricing, (COM 2001/35).

5.1.2 Combined Transport

Globalisation and the growth of trade on a world scale are two well-known features of this century¹⁹. In the last three decades European freight transport has increased by at least 70%, and a further 2,7% annual growth is expected for the next two decades²⁰. However, as freight traffic increases the implications for transport flows increase and:

‘Transport cannot escape the physical constraints imposed by geography or the institutional division which affect in particular the construction of infrastructure and the organization of the sector’²¹.

For example, in 1995, congestion was estimated to cost the European Union about 2% of Gross Domestic Product (GDP) per year, accidents cost approximately 1,5% and air

¹⁹ ECMT (European Conference of Ministers of Transport), (2000), ‘Integration of European Inland Transport Markets’, Published by ECMT.

²⁰ Suchorzewski, W., (2001), European Conference of Ministers of Transport, Published by Warsaw University of Technology, Poland.

²¹ ECMT (European Conference of Ministers of Transport), (2000), ‘Integration of European Inland Transport Markets’, pp. 33, Published by ECMT.

pollution and noise at least 0,6%²². In total these costs were US\$ 280 billion per year throughout the European Union, more than 90% of which was related to road transport²³.

Therefore, due to the increasing problems related to road congestion and environmental safety, the European Union has promoted the development of combined transport²⁴. The European Union's plan to promote combined transport and encourage users to choose it, can be seen by the following three elements²⁵:

- ♦ Making combined transport an essential part of the Trans-European transport network by identifying the key corridors for freight transport by rail, inland waterway, and sea transport across the European Union and by supporting the member states and the private sector in building the facilities needed to fill the gaps in this network.
- ♦ Establishing financial incentives to use combined transport as well as the European Union's support for policies in member states which give state aids or tax relief to combined transport.
- ♦ Removing technical and regulatory barriers to combined transport.

Moreover, in 1996 the European Conference of Ministers of Transport, declared in relation to the issue of combined transport that:

'Combined transport is an example for a national network which combines the benefits of the various transport techniques and can be understood as a candidate for all evaluations or adaptations which help to improve the transport chain. Since combined transport is a means of shifting traffic off the road, it also helps to achieve the aim of sustainable

²² European Commission, (1995), 'What is the true cost of transport?', December, (<http://europa.int/en/record/green/gp003enp.html>).

²³ European Commission, (1995), 'What is the true cost of transport?', December (<http://europa.int/en/record/green/gp003enp.html>).

²⁴ <http://www.europa.int/html>.

²⁵ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp. 31, Master of Science in International Logistics, Published by the University of Plymouth.

*mobility, as already pointed out in the white paper on transport issues by the European Union*²⁶.

All the elements presented above include several policy issues, not all of which are related to this study, nor have an effect upon determining the future of the Baltic States gateway market. Therefore, only the policy issues with substantial effect to the Baltic States as a gateway market are outlined in this context. These are²⁷:

- ♦ Extending the PACT programme, (which is the Pilot Actions for Combined Transport, a mechanism for granting financial assistance for pilot projects to promote the combined transport of goods), to involve the countries of Central and Eastern Europe.
- ♦ Creating Trans-European rail-freight freeways offering open access, and incorporating these into an intermodal environment.
- ♦ Drawing up common pricing principles and establishing charges for the various modes of transport.
- ♦ Amending Regulation (EEC) No. 1107/70 on aid granted to combined transport, taking account of the need to improve the competitiveness of this sector.

This indicates that the EU by promoting combined transport financially, and developing inland transport corridors (TEN), favours the railways, since road transport is regarded as most likely to create transport congestion and damage the environment. Likewise, financial aid opens access to infrastructure and that can lead to an increase of competition in the future. One should be aware though, that when competition exists services tend to improve and new techniques develop.

Therefore, one can assume that when the policies presented above are applied to the Baltic States, these States might increase their market share in railway transport. This is because

²⁶ ECMT (European Conference of Ministers of Transport), (2000). 'Conference on the development of Combined Transport', Ljubljana (Slovenia).

²⁷ <http://www.europa.int/scadplus/leg/en/lrb/124179.htm>

there is a sea voyage from Europe to any of the Baltic State's ports, and a rail route from each State to Russia, and via the TSR route to the Far East, and finally a possible road route from terminal to customer. This chain fits the criteria of the EU for what constitutes combined transport:

*'Combined transport can be defined as intermodal transport where part of the journey is carried out by rail, inland waterway or sea and any initial and/or final leg carried out by road are as short as possible'*²⁸.

5.1.3 Fair and Efficient Pricing

One way to reduce or even eliminate the undesirable side effects of transport-congestion, infrastructure damage, accidents and pollution to the environment and increase competitiveness of combined transport is the future policy of Fair and Efficient Pricing. The European Commission introduced in December 1995 the Green paper entitled, 'Towards fair and efficient pricing in transport-policy options for internalising the external costs of transport in the European Union'²⁹. The Commission has presented in this paper a series of proposals that could be introduced to promote fair and efficient pricing³⁰:

- ♦ Inclusion of an environment charge in annual vehicle taxes.
- ♦ Introduction of differentiated fuel taxes reflecting differences in fuel qualities.
- ♦ Reconsideration of the tax differential in favour of diesel fuel in the light of its environmental impact.
- ♦ Introduction of charges for rail and air transport to reflect environmental costs and curb distortion of competition.
- ♦ Introduction of a kilometre tax and road tolls based on a vehicle's environmental performance.

²⁸ The European Intermodal Working Party, (1994), 'Understanding European Intermodal Transport', pp. 2.

²⁹ European Commission (1995), 'Pricing: Green Paper', December 20, <http://www.europa.int/en/scadplus/leg/en/lrb/124138.htm>.

³⁰ European Commission (1995), 'Pricing: Green Paper', December 20, <http://www.europa.int/en/scadplus/leg/en/lrb/124138.htm>.

In addition, in July 1997 the Commission presented the White Paper entitled: 'Fair payment for infrastructure use: A phased approach to a common transport infrastructure charging framework in the EU'³¹. The White Paper sets out to fulfil four aims:

- ♦ To improve the overall efficiency of the provision and use of European transport infrastructure.
- ♦ To promote fair transport.
- ♦ To safeguard the single market.
- ♦ To enhance the sustainability of the Transport system.

Based on the White Paper, a way of achieving these aims is to introduce marginal social cost charging, i.e. charging users for both internal and external costs (operating costs, infrastructure damage costs, congestion costs, environmental costs and accident costs) that they impose at the point of use³². Therefore, the European Union, taking into consideration the different situations of the various modes of transport, introduced a step-by-step implementation of the common charging framework. Three phases were proposed³³:

- ♦ 1998-2000: Introduction of charging systems for railway infrastructure and airports.
- ♦ 2001-2004: Harmonisation and adjustment of charging systems, in particular for heavy goods vehicles and rail transport.
- ♦ Beyond 2004: revision of the Community framework in the Light of experience drawn from the first two phases.

The intensity of the European Union concerning the policy of Fair and Efficient Pricing and the White Paper indicates that maybe in the near future the external costs of the

³¹ European Commission (1997), 'Pricing: White Paper', July 22, <http://www.europa.int/en/scadplus/leg/en/lrb/124138.htm>.

³² European Commission (1995), 'Pricing: Green Paper', December 20, <http://www.europa.int/en/scadplus/leg/en/lrb/124138.htm>.

³³ European Commission (1995), 'Pricing: Green Paper', December 20, <http://www.europa.int/en/scadplus/leg/en/lrb/124138.htm>.

transport modes would be incorporated directly into transport costs. Some of the policy issues included in the Green Paper, such as, differentiated fuel taxes reflecting differences in fuel quality and road tolls in urban areas, have already come into full effect. These kind of policies appear more or less as guidelines or political objectives. Nevertheless, if the external costs of the transport modes are incorporated into the transport prices in the future, the railways will be a more attractive choice than they are at the moment, with obvious implications for container traffic.

5.1.4 Trans-European Networks

According to the second White Paper submitted by the Commission on September 2001, the aim of the European Union is to establish by the year 2010 a modern and sustainable transport system that Europe needs for the 21st century³⁴. The total amount of traffic is expected to double by the year 2010³⁵. Therefore, the European Union is developing the Trans-European Networks in order to³⁶:

- ♦ Provide business with rapid and reliable transport services at competitive prices.
- ♦ Reduce congestion and pollution by partly switching from road to rail, short ferry crossings, inland waterways and combined transport systems.

The Trans-European Network project was first introduced in the Maastricht Treaty in 1992 (Title XII, Article 129d) where the TEN networks were defined along with the objectives to support the Single Market through inter-connections and inter-operability and in the end through network integration³⁷. The Trans-European Networks include major priority

³⁴ European Commission (2001), 'White Paper: European transport policy for 2010', September 12, <http://www.europa.int/en/scadplus/leg/en/lrb/124138.htm>.

³⁵ European Commission, European Investment Bank, 'Trans-European networks for transport and energy: Infrastructure for the 21st century', pp. 3.

³⁶ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp. 36, Master of Science in International Logistics, Published by the University of Plymouth.

³⁷ Paper presented in the ECMT in 2001 in Paris and extracted from the draft IRU (International Railways Union) Manual on Road Transport Integration, 3rd Edition.

projects for the construction and the development of road and high-speed railway networks, waterways and sea networks and combined transport corridors³⁸.

In 1994 the Essen European Council selected 14 priority projects³⁹. For the period 2000-2006 a total of 4.6 billion Euros has been earmarked in the budget for TEN's, to which must be added the contributions from the Cohesion Fund, the European Investment Bank and the European Investment Fund⁴⁰. Of the 14 projects selected and financed by the European Union, there has been underlined a clear priority for shifting from road transport to other modes of transport⁴¹. Based on documents presented by the European Investment Bank:

*'About 80% is focused on rail links and a further 9% on road/rail links. Only 10% is earmarked for new road building'*⁴².

In addition:

*'The prospect of enlargement to the countries of Central and Eastern Europe has further strengthened the importance of TEN's by extending their scope to the entire continent. Further afield, their efficient connection to the networks of third countries to the East (Russia and the countries of the CIS) or to the South (countries of the Mediterranean basin) will be conducive to economic development and equilibrium'*⁴³.

The Trans-European Network for multi-modal transport consists of ten transport corridors presented in figure 5.1. Among these corridors there are two infrastructure projects which have a significant impact on the Baltic State's gateway market. These projects are transport corridors no. 1 and no. 9.

³⁸ European Commission, European Investment Bank, 'Trans-European networks for transport and energy: Infrastructure for the 21st century.

³⁹ According to the White Paper 2010, another approximately six new projects will be added.

⁴⁰ Trans-European Networks, <http://www.europa.int/en/scadplus/leg/en/cig/g4000c.htm>

⁴¹ ⁴¹ European Commission (2001), 'White Paper: European transport policy for 2010', September 12. <http://www.europa.int/en/scadplus/leg/en/lrb/l24138.htm>.

⁴² Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp. 36, Master of Science in International Logistics, Published by the University of Plymouth.

⁴³ Trans-European Networks, <http://www.europa.int/en/scadplus/leg/en/cig/g4000c.htm>

Figure 5.1

The Trans European Networks



Source: <http://www.bulletin.rec.org/bull103/corridors.html>

5.1.4.1 Transport Corridor No. 1

One of the European Union's priority projects is corridor no. 1 (Figure 5.1), which is the rail/road corridor Helsinki (Finland)-Tallinn (Estonia)-Riga (Latvia)-Kaunas (Lithuania)-Warsaw (Poland) with a branch to Riga-Kaliningrad (Russia)-Gdansk (Poland). The objectives of this project are: the improvement of the rail and road infrastructure, reduction in transport times, the creation of an environmentally sustainable modal balance, and the economic stimulation of the East-West trade⁴⁴. This corridor is expected to have a great impact on the infrastructure, including improvements in the rail and road networks of the

⁴⁴Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp. 38, Master of Science in International Logistics, Published by the University of Plymouth.

Baltic States. This corridor will also establish a good rail link from the port of Riga, north to the port of Tallinn and from there to Russia, or south to Kaunas and then to Russia.

5.1.4.2 Transport Corridor No. 9

Transport corridor no. 9 (Figure 5.1), runs from Helsinki (Finland) South to Alexandroupoli (Greece), and has two branches, one of which is important for the Baltic States gateway market. This branch is Klaipeda (Lithuania)-Kaunas (Lithuania)-Vilnius (Lithuania)-Minsk (Belarussia). Moreover, the three Baltic States in their efforts to have a share and an access to the EU TEN project came together in 1995 and agreed on co-operating in developing the branch Klaipeda-Minsk-Gomel within Transport Corridor No. 9⁴⁵.

This branch is very important for all the Baltic States but especially for Lithuania, because it creates a connection from the port of Klaipeda to the St. Petersburg and Moscow area. In addition, Lithuania has a more favourable position because this corridor and corridor no. 2 (Berlin-Warsaw-Minsk-Moscow-Nizhny Novgorod), meet each other in Minsk. This suggests that the port of Klaipeda would have really good access in the near future to Moscow, and this improved access could make the port of Klaipeda the most attractive gateway to Russia in the near future.

By 1997 the Baltic States welcomed the progress that had already achieved with the improvement of Eastern Europe's transport systems including, multimodal corridors No. 1 (Helsinki-Tallinn-Riga-Kaunas-Warsaw) and its branches, and branch No. 9B (Kiev-Minsk-Vilnius-Kaunas-Klaipeda)⁴⁶.

⁴⁵ Paper presented in Palanga (Lithuania), in 7th of July in the meeting of ministers of transport of the three Baltic States and Belarus.

⁴⁶ 3rd Conference of Ministers of Transport of the Baltic Sea States, (1997), Berlin, Germany, April 21.

5.1.5 Railway Directives

Although, the overall volume of goods transported in Europe increased considerably between 1970 and 1990, the share of goods market carried by rail in Europe decreased from 21.1% to 11%,⁴⁷. The European Union's involvement in the railway sector did not come until the beginning of the 1990's, when it attempted to promote the railways by introducing a policy for opening-up the markets to competition.

The foundation that was laid for the development of the European Union's railway system, was Railway Directive EEC 91/440 followed by two complementary Directives, 95/18 and 95/19, adopted in 1995⁴⁸. The aim of the first Directive was to encourage EU railways to adapt to single market conditions, increase their efficiency and to bring competition into the EU railway sector⁴⁹. Therefore, the Member States were required to⁵⁰:

- ♦ Ensure the independence of management of railway undertakings.
- ♦ Separate the management of railway infrastructure from the provision of railway transport services, by making a separate accounting compulsory (although organisational separation remains optional).
- ♦ Improve the financial situation of the companies in such a way that they are freed from debts which relate to past loss-making activities.

Moreover, in 1995 two complementary Railway Directives (EC 95/18 and 95/19) were adopted, aiming to clarify the conditions of access rights such as, licensing, capacity allocation and charging⁵¹. All Member States have adopted these Railway Directives and

⁴⁷ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁴⁸ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁴⁹ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', Master of Science in International Logistics, Published by the University of Plymouth.

⁵⁰ Organization for Economic Cooperation and Development, (1998), 'Railways: Structure, Regulation and Competition Policy', pp. 1.

⁵¹ Organization for Economic Cooperation and Development, (1998), 'Railways: Structure, Regulation and Competition Policy'.

some of them are examining additional measures, which go beyond the requirements set by the Directives, in order to achieve higher levels of efficiency and give them a more competitive edge. For example, the United Kingdom has added to the EU measures and privatised the majority of its railway sector.

In 1996 the European Union presented the White Paper aiming to revitalise the EU's railways by promoting the railways and by proposing in May 1997 the development of Trans-European Rail Freight Freeways (TERFFS). The TERFFS are rail corridors which operate on the principles of⁵²:

- ♦ Access of freeways must be fair, equal and non-discriminatory for all train operators licensed in the Community.
- ♦ The granting of licences, allocation of infrastructure capacity and charging of infrastructure fees within the framework of these freeways should be in compliance with Directives 95/15/EC and 95/19/EC.
- ♦ Freeways should be open to cabotage.
- ♦ Freight terminals should be open for fair, equal and non-discriminatory access to all train, road haulage and waterway operators.

Despite the efforts of the European Union to increase the use of the railway sector, the railway share of the freight market faced further decline from 11% in 1990 to 8.4% in 1998⁵³. Therefore, after years of studies, the European Union decided to move from opening-up the market to building a dedicated European Rail freight network, and therefore introduced Railway Directive 2001/12/EC followed by two complementary Railway Directives, 2001/13/EC and 2001/14/EC (which lay down rules on licensing,

⁵² White Paper: A Strategy for Revitalising the Community's Railways,
<http://www.europa.eu.int/en/scadplus/leg.htm>

⁵³ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

allocation of infrastructure capacity, and charging for use)⁵⁴. This Directive defines a Trans-European Rail Freight Network (TERFN) comprising 150,000 km of line open to European freight services by 2008 and defines the conditions under which companies can obtain a licence to run rail freight services over the TERFN⁵⁵. Nevertheless, according to the same Directive, 50,000 km of line will be open to European freight services by 2003⁵⁶. Any European company holding a licence would be able to use these lines and compete with other companies by offering new services⁵⁷. The difference between TERFFs and TERFNs is that the TERFFs are rail freight freeways where the commercial operation of these freeways is handled by 'one-stop-shop'. This means that for example, one infrastructure manager can act on behalf of all others involved in a route. Mainly the TERFFs aim to improve the co-operation between national infrastructure managers whilst the TERFNs were created in order to encourage the EU member states to separate their transport operations from the infrastructure management in order to enable new rail operators fair access to the rail market⁵⁸.

However, one should distinguish this infrastructure rail network from the Trans-European rail network (TEN), because the two networks are not strictly identical. The Trans-European Rail Freight Network (TERFN) covers some parts of Europe that the TEN does not⁵⁹. It is expected this infrastructure network will increase competition in Europe's railways and encourage the railway companies to set as a goal their integration in TERFN⁶⁰. However, this kind of fierce competition makes one wonder what will happen to any individual companies that fail to meet the EU Railway standards.

⁵⁴ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁵⁵ Port Development International, (2001) November/December.

⁵⁶ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁵⁷ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁵⁸ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁵⁹ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁶⁰ Port Development International, (2001), November/December.

In addition, rail stakeholders including: the International Union of Railways (UIR), the Community of European Railways (CER), the International Union of Public Transport (IUPT) and the Union of European Railway Industries (UNIFE), signed in 2001 a document agreeing to achieve the following objectives by 2020⁶¹:

- ♦ For rail to increase its market share of goods traffic from 8 to 15%, and of passenger traffic from 6 to 10%.
- ♦ A trebling of manpower.
- ♦ A 50% increase in energy efficiency.
- ♦ A 50% reduction in emissions of pollutants.
- ♦ An increase in infrastructure capacity commensurate with traffic targets.

Moreover, on 12th of September 2001 the European Commission submitted the White Paper entitled: 'European Transport policy for 2010: time to decide' [COM (2001) 370 final]. This paper proposes over 60 measures to develop a balanced transport system by reducing the amount of traffic on the roads, revitalising the railways, promoting transport by inland waterways and sea, and controlling the growth in air transport⁶². The proposals for the revitalisation of the railways included⁶³:

- ♦ **Developing a common approach to rail safety.** The aim of this measure is to gradually integrate the national safety systems by introducing a directive concerning rail safety and the safety certificates that a railway company must obtain prior to operating trains on the European network.

⁶¹ Port Development International, (2001), pp. 23, November/December.

⁶² White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

⁶³ White Paper: European Transport policy 2010, <http://www.europa.eu.int/en/scadplus/leg/en/lrb/124138.htm>.

- ♦ **Bolstering the fundamental principles of interoperability.** The EU aims to change the working methods in order to operate trans-frontier services and cut rolling stock costs on the high-speed network.
- ♦ **Setting up an effective steering body: the European Railway Agency.** This agency will co-ordinate the groups of technical experts seeking common solutions on safety and interoperability. The Agency would consist of around 100 employees and it could be in operation by 2004-2005.
- ♦ **Extending and speeding up opening of the rail freight market.** Directive 91/440, as amended by Directive 2001/12/EC, was mainly concerned with opening up the market for international freight services. However, the EU aims with this proposal to open up national freight markets as well.
- ♦ **Joining the Intergovernmental Organisation for International Carriage by Rail (OTIF).** The specific organisation drafts regulations related to the carriage of dangerous goods by rail and technical standards applicable to railways.

On the 23rd of January 2002, under IP/02/118 the European Commission introduced proposals in order to revitalise the railways and to speed up the establishment of an integrated railway area⁶⁴. The EC has proposed a new package of measures for the revitalisation of railways by rapidly building an integrated European railway area⁶⁵. All the measures included in this proposed package are based on the guidelines set out in the White Paper for 2010.

Looking at the proposals presented above, one can see that their sole aim is to revitalise the railway systems across Europe. In addition, one of these proposals, and more specifically the one concerning the opening up of national freight markets, has as an aim to increase competition. However, this proposal can be viewed as another indicator of the fierce competition among the rail companies operating

⁶⁴ IP/02/118, Revitalising the Railways, http://www.europa.eu.int/comm/transport/en/lb_en.html.

⁶⁵ IP/02/118, Revitalising the Railways, http://www.europa.eu.int/comm/transport/en/lb_en.html.

in Europe that is to come in the near future. Indeed, the EU wishes to promote competition but this consequently means that when the Baltic States become EU members, they would not only have to comply with all the EU regulations, but also to establish a highly competitive railway system that reflects EU requirements and standards.

However difficult railway developments have been for western railways over the last decade, they have been considerably easier than for the Baltic States railways. The sudden economic changes in the Baltic States resulting from the transition from communism to market economies have been especially hard on their railway systems⁶⁶. Even though the Soviet rule promoted railways (at the expense of other modes of transport) for its own use and benefit, it did not establish a transport-intensive, service-based form of market economy, mainly due to the Soviet obsession for industrialism⁶⁷. Likewise:

‘The shift from transport costs to total logistics cost management in transport decision-making has enormously increased the competitive position of high-service quality modes such as trucks and airlines’⁶⁸.

The result of course was the decline of rail traffic, accompanied by decline on earnings and of the ability of the Baltic State’s railways to finance needed maintenance and investment to replace damaged and old equipment⁶⁹. However, the dominant force that started to bring changes in the three Baltic States was their desire to become a member of the European Union. Indeed, on the 16th of April 2003, the European Union and the Baltic States of Estonia, Latvia, and Lithuania, signed an agreement for the accession of the Baltic States to the EU by May 2004⁷⁰. This indicates that the Baltic States would have to comply with all the regulations, policies and Railway Directives adopted by the EU by 2010. Already

⁶⁶ Rail Business Report, (1999), ‘Railway Restructuring Moves to Eastern Europe’, Published by the World Bank.

⁶⁷ Rail Business Report, (1999), ‘Railway Restructuring Moves to Eastern Europe’, Published by the World Bank.

⁶⁸ Rail Business Report, (1999), ‘Railway Restructuring Moves to Eastern Europe’, pp. 7, Published by the World Bank.

⁶⁹ Rail Business Report, (1999), ‘Railway Restructuring Moves to Eastern Europe’, Published by the World Bank.

⁷⁰ EU Enlargement, <http://www.europa.eu>

the Baltic States have accepted Railway Directives EEC 91/440, EC 95/13, and EC 95/14 and have adopted a number of changes, the most important of which are⁷¹:

- ♦ The separation of the management of infrastructure from the management of the operational activities.
- ♦ The separation of accounts.
- ♦ Reduction of the state's influence on the commercial and economic activities of railway transport undertakings.
- ♦ Granting of access to the railway infrastructure to all the operators.
- ♦ Certification of rolling stock and infrastructure aimed at ensuring traffic safety.

Moreover, out of the three, Estonia has moved even further by privatising its railways hoping to move quicker towards establishing an efficient railway system⁷². All three States are seriously focusing upon strengthening the role of combined transport (rail/sea), and transferring some of the international traffic flows to combined transport⁷³. However, in order to achieve these objectives the Baltic States should establish a high quality and reliable rail operation equivalent to the Western Europe's railways, and create rail links with the latest EU project TERFN.

5.1.6 Sea Transport

The only maritime policy released by the EU that can influence the future of the Baltic State's ports, is the proposed Directive on market access to port services, COM 2001/35 final. According to this Directive⁷⁴:

- ♦ Workers and companies have the right and the freedom to establish themselves anywhere in Europe.

⁷¹ Position paper of the republic of Lithuania, http://www.urm/data/3/EF21912117_pos09.htm

⁷² Railway Gazette International, (2001), 'Estonian Privatisation Completed', pp 654, October.

⁷³ Fouvez, S., (2000), 'The Development of Combined Transport in CEECs', May, Ljubljana (Slovenia).

⁷⁴ Farrell, S., (2001), 'If It Ain't Bust, Don't Fix It: The proposed EU Directive on the Market Access to Port Services', Maritime Policy and Management, Vol. 28, No. 3, pp. 307-313.

- ♦ Increase competition.
- ♦ Prevent the distortion of competition by monitoring the state aid to ports. More specifically, the port authorities are required to keep separate accounts for their port services and other activities.

The new Directive applies only to EU ports that handle more than 3 million tons of cargo per year or 500,000 passengers, and covers all marine handling related services including pilotage, towing, mooring, transshipment cargo consolidation and passenger handling services⁷⁵. The Directive has not been implemented yet, and this is due to concerns expressed by numerous Member States over its aims and clarity. However, when and if the Directive is implemented, the Baltic States would have to adopt policies in the ways suggested by the EU.

Summarizing, all the European Union's policies that are most likely to affect or even determine the future of the Baltic States route as a gateway market, have been presented so far. However, when one examines the overall picture, one wonders what the real impact will be that accession to the EU will impose on transport sectors in the near future?

Based on a Lithuanian Governor's report, accession to EU will impose net costs on the transport sector rather than net profits⁷⁶. This is due to the fact that the three Baltic States will have to invest in transport in order to meet the transport standards set by the EU⁷⁷. Even though adopting the EU standards means costs for the transport sector in the near future, the Baltic States will gain the benefits of improving their transport services and infrastructure, becoming competitive, having equal opportunities with other EU members, create more jobs in the transport sector, protect the environment and improve safety.

⁷⁵ Farrell, S., (2001), 'If It Ain't Bust, Don't Fix It: The proposed EU Directive on the Market Access to Port Services', *Maritime Policy and Management*, Vol. 28, No. 3, pp. 307-313.

⁷⁶ Jura Journal, (2001), Issue 1, 'Costs and Benefits of EU Enlargement in Transport Sector', http://www.jura.lt/2001_01/article14_e.htm.

⁷⁷ Jura Journal, (2001), Issue 1, 'Costs and Benefits of EU Enlargement in Transport Sector', http://www.jura.lt/2001_01/article14_e.htm.

Efficiencies are likely in the Baltic State's ports, due to privatisation and foreign investments⁷⁸. However, as far as the railway sector is concerned any efficiency will depend on institutional change and the ability of management to embrace a new commercial focus⁷⁹. This is because:

*'Institutional change will be the key in enforcing the implementation of legislation and to the realisation of potential efficiency gains'*⁸⁰.

5.2 Existing or proposed Russian ports in the Baltic Sea

5.2.1 Introduction

In 1998 the Russian economic crisis resulted in a sharp decrease in the container volumes moving in and out the country⁸¹. Nevertheless, in the following two years the recovery of the Russian economy after the economic collapse of 1998 was significant and the Russian container market increased to 450,000 TEU⁸². However, in 2001 it was calculated that ports outside the Russian borders handle nearly half of Russia's container trade, and the competition among ports in the Baltic Sea is intensively growing⁸³.

In addition, the election of Russian President Putin in May 2001 has had a great impact on Russian transport systems, especially shipping. This was due to the fact that Putin in his effort to ensure that Russia will rely as little as possible on its neighbouring countries' ports for the handling of cargo, decided to promote plans laid during the 1990's for the

⁷⁸ Jura Journal, (2001), Issue 1, 'Costs and Benefits of EU Enlargement in Transport Sector', http://www.jura.lt/2001_01/article14_e.htm.

⁷⁹ Jura Journal, (2001), Issue 1, 'Costs and Benefits of EU Enlargement in Transport Sector', http://www.jura.lt/2001_01/article14_e.htm.

⁸⁰ Jura Journal, (2001), Issue 1, 'Costs and Benefits of EU Enlargement in Transport Sector', http://www.jura.lt/2001_01/article14_e.htm.

⁸¹ Lloyd's List, (2001), 'St. Petersburg Gains at Baltic Rivals' Expense', April.

⁸² Port Development International, (2001), 'Scandinavia: Battle of the Baltic', May.

⁸³ Port Development International, (2001), 'Scandinavia: Battle of the Baltic', May.

improvement of existing Russian ports in the Baltic Sea and the construction of a number of new ports⁸⁴.

5.2.2 Development of Existing Ports

The first decision in the development of existing ports in the Baltic Sea region was taken as early as 1992. This decision was taken on the basis that, after the collapse of the Soviet Union, Russia lost as many as 5 out of 8 ports on the Baltic Coast⁸⁵. Hence, the Russian government took all the necessary steps to re-establish the Russian maritime infrastructure in order to enable domestic Baltic ports to handle cargo traffic and remain competitive⁸⁶. This reconstruction programme was initially supposed to be completed by 2005. However, with the economic instability ruling the country after the collapse of the Soviet Union, and the economic crisis of 1998, the progress of port development has been slow and difficult⁸⁷. According to a number of articles, the development plans for the Russian Baltic ports are expected to be completed by 2010⁸⁸. Figure 5.2 presents all the existing Russian ports in the Baltic Sea. The existing Russian ports in the Gulf of Finland are: Vyborg, Vysok, Kronstadt, St. Petersburg and Kaliningrad. Out of them, St. Petersburg and Kaliningrad are the only two ports handling container traffic, and therefore, these are the only ports that are analysed in this chapter.

5.2.2.1 Port of St. Petersburg

The port of St. Petersburg is the biggest Russian port in the Baltic Sea, located on the mouth of the river Neva, and connected to the sea by the Seaway channel with a length of 27 miles⁸⁹. The St. Petersburg seaport is registered as a joint-stock company, in which the

⁸⁴ Frisk, A., (2001), Paper presented at the Seventh International Moscow Transport and Logistics Conference, March, Published by PRISMA Consulting Group.

⁸⁵ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp. 36, Master of Science in International Logistics, Published by the University of Plymouth.

⁸⁶ Port Development International, (2001), 'Scandinavia: Battle of the Baltic', May.

⁸⁷ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp. 36, Master of Science in International Logistics, Published by the University of Plymouth.

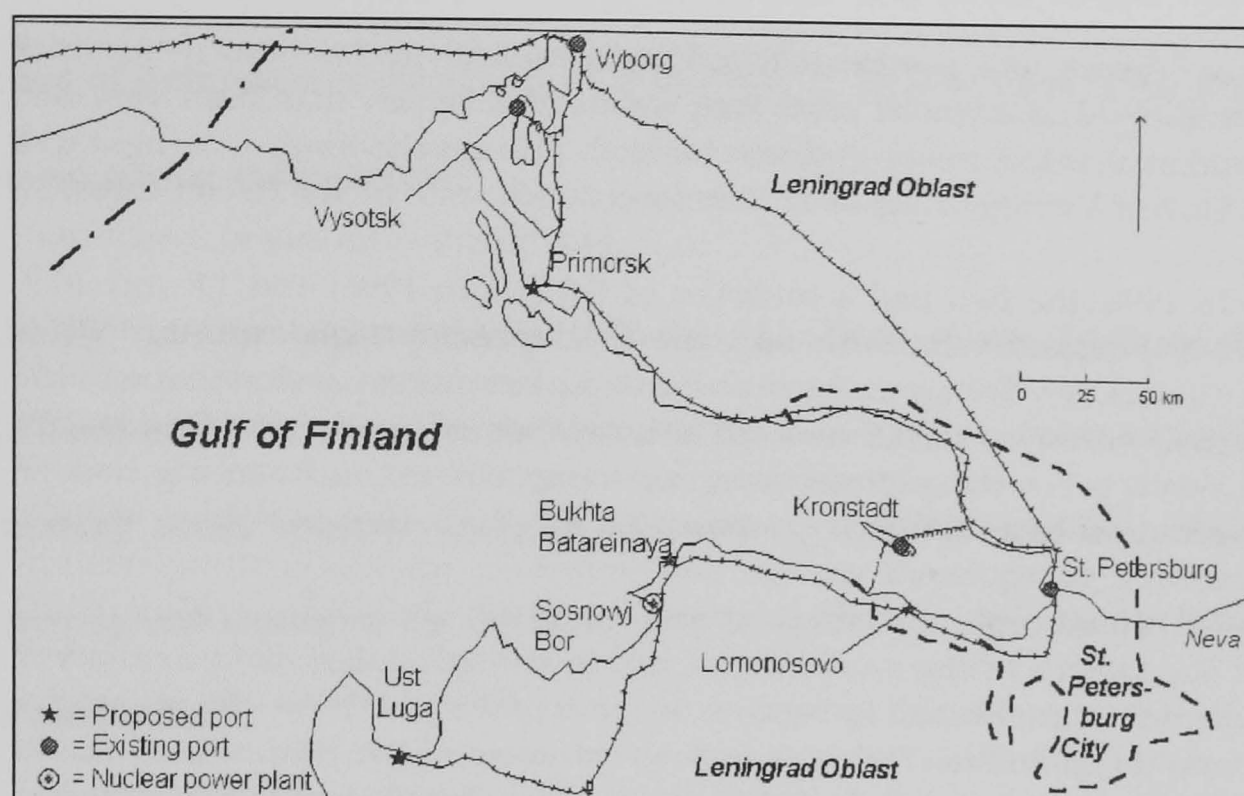
⁸⁸ Lloyd's List, (2001), 'St. Petersburg Gains at Baltic Rivals' Expense', April.

⁸⁹ SeaNews, May, (2003), 'Throughout of Sea Port of St. Petersburg'. <http://www.seanews.ru>.

private company Nastor holds a 51% stake, and the remaining 49% is partially state owned⁹⁰.

Figure 5.2

Existing and Proposed Russian Ports in the Baltic Sea



Source: Brodin, A., (2000), 'Ports in Transition in Countries in Transition', pp. 73, Published by Gothenburg University, Sweden.

The main reason for the privatisation of the largest part of the port was the lack of funds. In the last decade over \$ 213 million has been invested in construction and modernisation of facilities at the port⁹¹. The port handles over 170,000 TEU annually, but in the last few years, the port has faced difficulties in serving the continuously growing volumes of containers moving in and out of Russia. Therefore, the most important plan adopted by the Russian government is the development of a new 330,000 TEU capacity container terminal⁹². The construction of the new container terminal started in 1997 and the first stage of its construction is expected to be completed by 2003⁹³.

⁹⁰ Pravda, (2002), 'St. Petersburg Sea Port Doubles Volume of Cargo Handled Over Ten Years', December.

⁹¹ Pravda, (2002), 'St. Petersburg Sea Port Doubles Volume of Cargo Handled Over Ten Years', December.

⁹² Lloyd's List, (2001), 'St. Petersburg Gains at Baltic Rivals' Expense', April.

⁹³ Lloyd's List, (2001), 'St. Petersburg Gains at Baltic Rivals' Expense', April.

Even though the plans of St. Petersburg to increase capacity and modernise its facilities are significant, the port faces bigger problems related mostly to natural causes. Firstly, the city of St Petersburg is located at the innermost part of the Gulf of Finland and has suffered several floodings as recently as 1998 and 1999, and the water is rather shallow and sweet⁹⁴. As a result of this, even fairly mild winters cause the port to freeze, and the strong winds cause the water level to rise, packing ice in the inner part of the Finnish Gulf⁹⁵. Therefore, the use of icebreakers is essential for the function of the port most of the year, and is both time consuming and expensive⁹⁶.

Secondly, another major problem that the port faces is the depth of the water. As mentioned earlier the water in the Gulf of Finland is shallow. As a result, the port of St. Petersburg needs constant dredging in order to facilitate vessels⁹⁷. This can be time consuming and expensive for the companies using the port, but mostly for the companies that own berths⁹⁸.

Thirdly, during the past few years the cost of handling containers has been set at a higher level than in other ports in the Baltic States. This is illustrated clearly by Table 5.1. As one can see in the fourth column, where the freight handling rates at ports are presented, out of the four ports, St. Petersburg is the most expensive.

Moreover, corruption and bureaucracy are definitely another problem that the Port Authority needs to address and solve in order to be able to provide safe and efficient services to customer⁹⁹.

⁹⁴ Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by Gothenburg University, Sweden.

⁹⁵ Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by Gothenburg University, Sweden.

⁹⁶ Journal of Commerce Special, 'Russian Government Promotes Intermodal Route', <http://www.joc.com>.

⁹⁷ Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by Gothenburg University, Sweden.

⁹⁸ St. Petersburg port authority completes dredging in PETROLESPORT, <http://www.transportal.no/press/1227stpeter.html>.

⁹⁹ Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by Gothenburg University, Sweden.

Table 5.1**Costs Comparison of Container Transportation from the Baltic Ports to Moscow (USD per container)**

Port	Costs	Average tariffs for railway transportation	Freight handling rates at ports	Total costs of transportation
Riga	391	54	350	795
Ventspils	407	54	350	811
Klaipeda	330	64	400	794
St.-Petersburg	433	60	650	1143

Source: Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by Gothenburg University, Sweden.

Finally, a number of environmental groups have complained about the Russian development plans for both the existing and potential ports in the Baltic Sea, due to the fact that such plans are a threat to the environment¹⁰⁰.

5.2.2.2 Port of Kaliningrad

The second Russian port is the port of Kaliningrad located on the South-East coast of the Baltic Sea. During Soviet times the port had a strategic position where the Soviet navy handled its operations¹⁰¹. Nevertheless, after the collapse of the Soviet Union, Kaliningrad found itself separated from the main territory of the Russian Federation. In the East, Kaliningrad borders with Lithuania, and in the West with Poland. The main reason that the Russian government has decided to develop the port is in order to become competitive to other Baltic ports and to facilitate Russian cargo heading to Western Europe¹⁰². For the last decade this port has never been viewed as a port that can compete with any of its rivals in

¹⁰⁰ St. Petersburg Port Construction Threatens Waterfowl Habitat', <http://www.isar.org/archives/st/ruportbuilding49.html>.

¹⁰¹ Brodin, A., (2000), 'Ports in Transition in Countries in Transition', Published by Gothenburg University, Sweden.

¹⁰² Brodin, A., (2000), 'Ports in Transition in Countries in Transition', published by Gothenburg University, Sweden.

the Baltic Sea¹⁰³. This was mainly due to the lack of efficient port infrastructure and poor transport connections to Russia. However, the European Union has assisted Kaliningrad by providing the region with 40 million Euros for developments and has decided that branches of two Trans-European transport corridors (corridor 1 and 9) will pass via Kaliningrad transport junction¹⁰⁴. This was due to the fact that the EU wanted to ensure that Kaliningrad would not be isolated from the rest of Europe.

The Kaliningrad complex consists of three ports, (the Sea Commercial port, Fishing port and Inland port), and it is connected with the Baltic Sea by a 42 km access Channel¹⁰⁵. The Sea Commercial port is basically orientated towards the services of Russian and other countries, export-import cargo flows, including general cargo, bulk and liquid cargo, dry cargo and containers¹⁰⁶. The development plans for this port include the construction of a container terminal and the installation of modern facilities¹⁰⁷. Both the contribution of the EU (TEN) and the Russian plans suggest that in the future Kaliningrad can compete with the rest of the ports in the Baltic Sea. However, the disadvantages that this port possesses are sizeable.

The first problem that Kaliningrad faces is its geographical position. Being isolated from Russia results in having to cross foreign territory in order to move goods from Moscow to Kaliningrad, an issue which will be exacerbated when Latvia, Lithuania and Estonia join the EU. As Figure 5.3 indicates, the route from Kaliningrad to the Russian mainland can be either via the Baltic States, or via Poland and Belarus. In any case, it is time consuming and expensive.

¹⁰³ Paykkonen, P., A., (1997), 'The Future Potential of Finland and its Railways in Container Gateway Traffic to Russia', pp. 36, Master of Science in International Logistics, Published by the University of Plymouth.

¹⁰⁴ EU-Russia partnership on Kaliningrad,
http://europa.eu.int/comm/external_relations/north_dim/news/mem02_169.htm.

¹⁰⁵ Paper presented in the TransRussia Conference, (2000), 'Transport Complex, in the Special Economic Zone, Kaliningrad Region'.

¹⁰⁶ Paper presented in the TransRussia Conference, (2000), 'Transport Complex, in the Special Economic Zone, Kaliningrad Region'.

¹⁰⁷ Paper on EU-Kaliningrad-Lithuania, October, (2000),
<http://www.baltinfo.org/Docs/ministerial/20/Lithuania-EU-Kaliningrad.1.htm>.

The second problem that the port faces is its access to the Baltic Sea. As mentioned above, the port is connected to the sea through a channel. However, the channel is limited to one-way traffic and mandatory pilotage¹⁰⁸. In addition:

Figure 5.3

Possible Combinations of Countries to Transit: Kaliningrad – Russia



Source: Brodin, A., (2000), 'Ports in Transition in Countries in Transition', pp. 89, Published by Gothenburg University, Sweden.

*'Kaliningrad has small and rather old terminal facilities, which do not stand any comparison with modern container terminals. Port costs are exorbitant high and the service ships receive at Kaliningrad does not justify such high costs. 21,000 TEUs were handled in 2000, and right now there is no possibility for big increases, although investments are planned and endeavours can be seen. But Kaliningrad faces the transit corridor problem, having to cross two or more borders to Russia mainland'*¹⁰⁹.

As one can see so far, both Russian container ports in the Baltic Sea are interestingly enough hampered by difficult access and problems associated with natural causes. Although, there are development plans, in the case of St. Petersburg port, the port has difficulties in handling the volumes offered, and when it does, it is more expensive than

¹⁰⁸ Frisk, A., (2001), Paper presented at the Seventh International Moscow Transport and Logistics Conference, March, Published by PRISMA Consulting Group.

¹⁰⁹ Frisk, A., (2001), Paper presented at the Seventh International Moscow Transport and Logistics Conference, March, Published by PRISMA Consulting Group.

rival ports in the Baltic Sea. Likewise, while talking about construction plans, one should be aware that:

‘The port of St. Petersburg is also completely circumvented by the city itself, limiting most plans for expansion’¹¹⁰.

5.2.3 Proposing Russian ports in the Baltic Sea

The notion for the construction of new ports in the Gulf of Finland was presented as early as 1992¹¹¹. Despite this it was not until 1997 that the first steps were taken for the fulfilment of this aim¹¹². The initiative to build a new container port in the Finnish Gulf was taken on the basis that St. Petersburg cannot any longer cope with the steady growth of containers moving via Russia¹¹³. In addition, as experts indicate, the movement of containers will continue to rise globally and even double in the next ten years, and Russia wants to make sure that it can provide the services required in the near future¹¹⁴. The proposed ports in the Gulf of Finland are: Bukhta-Batareinaya, Primorsk and Ust-Luga. However, among the three, only Ust-Luga port is designed to have a container terminal, and it is the only proposed port that will be examined in this chapter.

5.2.3.1 Ust-Luga port

Ust-Luga is allocated on the South-Eastern shore of the Gulf of Finland, about 120 km west of St. Petersburg¹¹⁵. The construction of the port began in 1997 and it is expected to have an overall capacity of 35 million tons¹¹⁶. However, since the beginning of its construction, there have been allegations of a massive criminal diversion of development

¹¹⁰ Brodin, A., (2000), ‘Ports in Transition in Countries in Transition’, pp. 75, Published by Gothenburg University, Sweden.

¹¹¹ Port Development International, (2000), ‘Fits and Starts’, June.

¹¹² Brodin, A., (2000), ‘Ports in Transition in Countries in Transition’, Published by Gothenburg University, Sweden.

¹¹³ Port Development International, (2001), ‘Scandinavia: Battle of the Baltic’, May.

¹¹⁴ Jura, (2001), ‘Whether Russia needs the Baltic States’, http://www.jura.lt/2001_01/article06_e.htm.

¹¹⁵ Ust-Luga, <http://www.ust-luga.ru/en/port/term.html>

¹¹⁶ Port Development International, (2000), ‘Fits and Starts’, June.

funds, which resulted in the project being taken over by the Russian government¹¹⁷. The initial stage includes the construction of a coal terminal, to be followed by the construction of a fertilizer terminal¹¹⁸. On May 2003, the coal terminal started operating by exporting coal to Europe¹¹⁹. However, the future plans include the construction of a container terminal capable of handling up to 200,000 TEU¹²⁰. The construction of the container terminal has not started yet, but it is expected to be completed by 2010. Nevertheless, one should be aware that even when this container terminal is completed, it will still face similar problems to St. Petersburg, including the need for dredging and icebreakers¹²¹.

However, at this point it would be better to summarise all the advantages and disadvantages discussed earlier for the construction and development of new ports by Russia in the Gulf of Finland.

The advantages of construction include:

- ♦ Economic independence from foreign Baltic ports.
- ♦ The stimulation of infrastructure.
- ♦ A doubling of cargo flows estimated in the coming ten years.

The disadvantages of construction include:

- ♦ Navigation and ice difficulties in the Gulf of Finland.
- ♦ Threat to the fragile environment.
- ♦ High level of prices for handling containers.
- ♦ Corruption and bureaucracy.

¹¹⁷ Cargo Systems, (2002), 'Love Thy Neighbour', pp. 37, March.

¹¹⁸ Report prepared by Brennan, D., (1997), 'Russia Builds New Baltic Ports', BISNIS, October <http://www.bisnis.com>.

¹¹⁹ SeaNews, (2003), 'Ust-Luga Coal Terminal Accepts Coal', May, <http://www.seanews.ru>.

¹²⁰ Report prepared by Brennan, D., (1997), 'Russia Builds New Baltic Ports', BISNIS, October <http://www.bisnis.com>.

¹²¹ Frisk, A., (2001), Paper presented at the Seventh International Moscow Transport and Logistics Conference, March, Published by PRISMA Consulting Group.

5.3 Conclusion

Summarizing all the factors that can determine the future of the Baltic States as a gateway market, one can say that the accession of these States to the EU will expand trade relations with more member countries and will increase the efficiency of their transport systems. Likewise, there are a number of common denominators between the Baltic States and Russia, including growing transit and trade, and the large Russian speaking population living in the Baltic States, which can open up the gateway for better relations and co-operation in the future.

In addition, the accession of the Baltic States to the EU in 2004 along with the integration of Russia into European structures (like the TEN) will only enhance the role of the Baltic States as a gateway market.

CHAPTER SIX

CONCEPTUAL MODEL

6.1 Introduction

So far the main research concepts have been reviewed, setting the starting point as the effects of the Soviet Union upon the Baltic States and the TSR, moving on to the development of the Trans Siberian Railway after the collapse of the Soviet rule and examining the Baltic States and the Baltic States' ports individually and in comparison with rival competition from Finland, concluding with outlining any potential factors that can influence the future of the Baltic States' ports as gateways for containers moving via the Trans Siberian Railway. However, before we move any further it is necessary to choose an appropriate model in order to analyze and develop the structure of this research.

Models in general are useful as measuring and explanatory tools and have been widely adopted as a means of studying complex phenomena¹. In the past, models have been applied in a very wide range of studies; including academic or even direct real world situations and this has led to the development of many different typologies that classify models based on their specific characteristics².

¹ Pieczek, A., U., (2000), 'Analysis of Marketing Strategies in Polish Ports', Doctor of Philosophy, Published by the University of Plymouth, Institute of Marine Studies.

² Pieczek, A., U., (2000), 'Analysis of Marketing Strategies in Polish Ports', Doctor of Philosophy, Published by the University of Plymouth, Institute of Marine Studies.

In 1975 Lilien determined that models can be classified according to their specific use and listed models under four main categories including: conceptual, descriptive, experimental and prescriptive models³. According to Pieczek (2000):

‘A conceptual model helps consideration of reality’⁴

Whereas the descriptive model is used in order to describe reality and where necessary, can be used for forecasting and planning⁵.

Unlike the other models mentioned above, experimental models tend to investigate and examine the characteristics and response of the system whilst prescriptive models deal mainly with possible solutions to an existing problem⁶.

In addition, one can find that models can also be classified based on a variety of criteria and categories⁷. These criteria could be: purpose, degree of certainty, behavior characteristics, method of solution etc.; and the category could be: descriptive, predictive, explanatory, graphic, analytical etc.⁸

Given such a wide range of model categories, it was necessary to choose the most suitable for this research. There were three potential categories of models that could have been used for this study, descriptive, explanatory, and conceptual. However, after a very careful examination, the most appropriate model was considered to be the conceptual model. The

³ Lilien, G., L., (1981), ‘Model Revitalism: A Situational Approach to Model Building, Interfaces, 5 (3), in Panayides, P., M., (1998), ‘A Relationship Approach to the Marketing of Professional Ship Management Services’, Published by the University of Plymouth, Institute of Marine Studies.

⁴ Pieczek, A., U., (2000), ‘Analysis of Marketing Strategies in Polish Ports’, pp. 111, Doctor of Philosophy, Published by the University of Plymouth, Institute of Marine Studies.

⁵ Lilien, G., L., (1981), ‘Model Revitalism: A Situational Approach to Model Building, Interfaces, 5 (3), in Panayides, P., M., (1998), ‘A Relationship Approach to the Marketing of Professional Ship Management Services’, Published by the University of Plymouth, Institute of Marine Studies.

⁶ Lilien, G., L., (1981), ‘Model Revitalism: A Situational Approach to Model Building, Interfaces, 5 (3), in Panayides, P., M., (1998), ‘A Relationship Approach to the Marketing of Professional Ship Management Services’, Published by the University of Plymouth, Institute of Marine Studies.

⁷ Heijveld, H., (1999), ‘The Ferry Services Offer’, Doctor of Philosophy, Published by the University of Plymouth, Institute of Marine Studies.

⁸ Pieczek, A., U., (2000), ‘Analysis of Marketing Strategies in Polish Ports’, Doctor of Philosophy, Published by the University of Plymouth, Institute of Marine Studies.

main reason for choosing this type of model was that the structure of the project required some kind of generalization of the overall situation, one that involves many factors and in certain instances are quite complicated.

The conceptual model was considered to be the most appropriate way to deal with any uncertainty in the structure of the research, especially since at this point the theoretical part had been completed and the next stage involved further and more detailed analysis.

6.2 Components of the conceptual model

The conceptual model designed for this research consists of two parts, the theoretical part- which includes the first eight chapters of the project and the technical part which will include the Content Analysis, the analysis of scaling development, the development of a Likert scale questionnaire, the analysis of the results using the Analysis of Variance (ANOVA) and the t-test, in order to derive composite policies for the Baltic States Region.

In the first part, all the components of the conceptual model have been already analysed in the previous chapters, however, at this point it is necessary to outline the main factors associated with the Trans Siberian Railway. In addition, by examining the main factors that influence the Trans Siberian Railway market, one can understand the effects that the Trans Siberian Railway can have upon the transit ports of the Baltic States, and the potential of these ports. Reviews of previous research on the region provide a basis for the identification of the main factors which have impact upon the Trans Siberian Rail market and the Baltic States.

6.2.1 Factors Influencing the TSR

As one can see in Figure 6.1 which follows the work of Ledger and Roe (1993), these factors can be: political, economical, technical, legal, spatial, organizational, social and environmental⁹.

If one analyses the importance of these factors to the TSR market it is clear that these factors not only have an impact on the TSR but on the whole Eastern European region as well.

Political:

One of the most important factors that had a major negative impact upon the TSR was the collapse of the Soviet Union. The Soviet empire lost its main transit ports of Tallinn and Riga resulting in the decline of container volumes moving via the TSR.

Moreover, another political reason was related to public disclosure. This is described in different texts as:

‘A freeing up of access to information, the gradual erosion of censorship, and the progressive elimination of taboos on subjects that had previously been impossible to discuss in the mass media’¹⁰.

In the field of politics public disclosure had an immediate impact on the TSR from the introduction of competition and the influence of western investors, like Sealand and other investors from the Far East. In addition, there are other political factors that have influenced the TSR.

⁹ Ledger, G., and Roe, M., (1993), ‘East European Change and Shipping Policy’, Published by Ashgate Ltd., Aldershot Hants.

¹⁰ Lavigne, M., (1999), ‘The Economics of Transition’, 2nd Edition, pp. 8, Published by Mac Millan Press Ltd, London.

The TSR has been negatively influenced since 1990 due to the political confrontation between Russia and the Baltic States that existed and which led to fierce competition between them, resulting in reduced business for both. Since 1999 an effort has been made from both sides to build up relationships¹¹.

Also the good political relations that Russia developed with Finland and the Far East has led to the establishment of a number of projects and agreements for mutual assistance in the transport sector and the establishment of laws favouring all the parties involved.

Economic:

After the collapse of the Soviet Union and a period of economic instability, Russia moved towards privatization. Privatization seemed to be the key to attract foreign capital and establish better political relations with Western Europe and the Far East. Therefore, the Russian Ministry of Railways moved in 1991 to partial privatization of the TSR service with the sale of 50% to Sealand of the USA and the formation of the Trans Siberian Express Service¹².

Other political changes related to subsidies and the formation of joint ventures had an impact on the TSR. The Russian government in its attempt to sustain and develop the TSR has given subsidies hoping to improve the efficiency of the railways and attract this way more foreign investors and clients, in order to obtain new technology and earn hard currency. In addition, Western investors saw the opportunity to penetrate the Russian and Far East markets at reduced transport costs and to acquire cheaper means of transportation.

Technical:

Currently the main outlets to the sea for TSR containers are through south Finnish ports and the ports of the Baltic States due to the fact that they have the same rail gauge with

¹¹ Lavigne, M., (1999), 'The Economics of Transition', 2nd Edition, Published by Mac Millan Press Ltd, London.

¹² Helmer, J., (1999), 'Moller Weights Future of Russian Intermodal Route', Journal of Commerce, August 2.

Russia. Competition from rail services across Europe is limited by the difference in rail gauge once crossing the Polish border and the costs this imposes.

Furthermore, Russia has reached an agreement with Japan according to which, Japan is expected to provide technologies connected with railway transport and modern computer equipment to management personnel of the TSR. The technical revival of the TSR includes the renewal of the rail lines, shortening transportation time and ensuring safety of containers.

Legal/Organizational:

There is instability in executing frequently changing laws and regulations concerning customs and transport. In the anecdotal data derived from experts in the Baltic Sea Region and Russia, customs procedures take a long time. This has an impact on the TSR as it makes it difficult for the operating companies to attract customers. Therefore, the International Coordinating Council on Trans Siberian Transportation has concentrated in the past few years on an effort to ease customs formalities and to establish lower tariffs in order to increase competition of the TSR over the deep-sea route¹³. In 2000, rail tariffs were reduced considerably, resulting in the redirection of some of the cargo to the Trans Siberian Railway. However, one should take into consideration that even though the International Coordinating Council on Trans Siberian Transportation has contributed considerably to the improvement of the Trans Siberian Railway and the reduction of its freight rates, 60% of the tariff is decided outside the direct influence of the TSR.

Spatial:

As noted earlier Russia has an ideal geographical position, in terms of connecting the Far East to Europe, especially Western Europe. Therefore, the original aim of the TSR route is to act as an alternative and faster service to deep-sea links from China, Japan and Korea to

¹³ Trans Baltica 2001, VI International Conference, (2001), Riga, Latvia June 7-8.

Europe and USA. This can be seen by the difference in the delivery time between the two routes. Containers from Vostochny port (Russia) to Finland via the Trans Siberian Railway take 14-17 days, whilst by the deep-sea route the same distance is covered in 35-40 days.

Social:

The social changes, which have occurred in Russia since the collapse of the Soviet Union, have had an impact on the TSR market mainly upon the relations between Russia and neighboring countries. Russia lost its control over the ex-satellite countries and their ports and that made any further communication and trade co-operation with these countries difficult.

In addition, Russia was now open to a competitive market where foreign investors were waiting to penetrate the domestic market. The country had to accept the concepts and standards of Western Europe's economy and learn how to expand its horizons beyond the memory of self-sufficient communism, and into a liberated market environment.

Environmental:

The TSR route offers much potential, particularly in the context of increasing environmental awareness and emphasis on the rail freight in this context, and the policies of the EU, which aim to encourage inter-modal transport for similar reasons. In the last decade, roads had become the predominant mode of transport. Nevertheless, in the last few years plans for the development and use of sea and rail networks have been pushed forward by individual governments in the Baltic Sea Region and Russia and also the EU.

6.3 Competition between Baltic States and Finland

Currently the main outlets to the sea for TSR containers are through south Finnish ports and the ports of the Baltic States see opportunities in competition with them particularly in the light of new or planned container terminal facilities in Klaipeda, Ventspils, Liepaja and

Riga. The Baltic States can provide high standard container ports with the advantages of being efficient, secure, cost effective and ice-free.

However, the Finnish ports have the advantage of having a common border with Russia and therefore, stocking possibilities near the Russian border. Moreover, the good political relation between the two countries is a key factor for the use of the Finnish ports for the transit of containers to Western Europe.

A literature review of academic, industrial and commercial publications covering the TSR, transit in the Baltic States, the export of containers from Russia, the Far East and the FSU was undertaken in order to conduct a content analysis. Content analysis is a technique which enables a researcher to identify through a quantitative and qualitative procedure the issues or themes that are important and essentially related to the construct under investigation. The output from the literature review will be used in order to form the basis for the content analysis of the major themes, which characterize the discussion on the industry.

The output from the content analysis will guide the issues, which will be presented for expert opinion and rated using a scaled approach, which will take the form of a Likert Scale. This rating scale will be used to provide a quantitative assessment of opinion on the importance of the issues presented to the experts who will be given the opportunity to accept or reject them on a scale of 1-5 (agree / disagree). There are a large number of examples of the use of this scale from many disciplines.

As the conceptual model indicates in the next stage a model will be developed to analyze these scaled results, which will be entered into ANOVA and t-test analyses in order to

assess the results obtained by the experts in the region and form a basis for creating a set of policies.

The final stage presented in the conceptual model, is the derivation of policies and recommendations for the region. These policies aim to contribute towards the improvement of the Baltic States rail and sea transport systems as a whole.

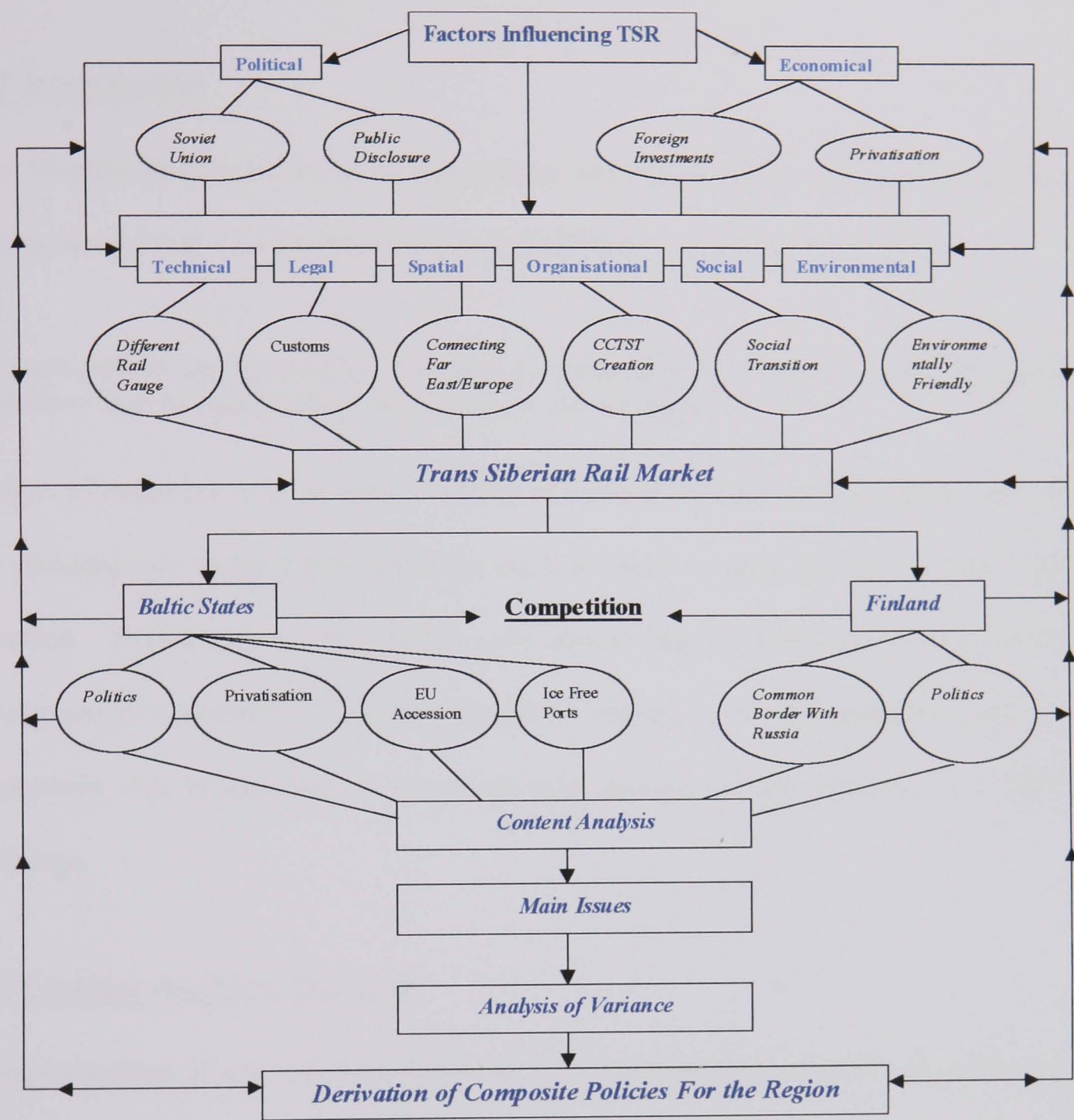
6.4 Conclusion

Prior to the conceptual model, the researcher presented the theoretical part of this research, which consisted of five chapters and aimed at presenting all the information related to the construct under investigation, which is the potential of the Baltic States ports to compete for containers in the Trans Siberian Railway market.

The second half of this research consists of four chapters and is the technical part of this study including the statistical techniques applied to derive composite policies for the region. The following chapters explain scaling development as well as all the necessary steps taken in order to create the statements that were presented to the experts in the Baltic, Russian and Far East region.

Figure 6.1

The Conceptual Model



CHAPTER SEVEN

CONTENT ANALYSIS

7.1 Introduction

The foundation of good research depends on identifying the main issues of the theme and paying attention to certain factors such as credibility of both sources and data.

‘If such factors are ignored or overlooked, research will be open to criticism and serious questions may be raised about the quality of the findings’¹.

Hence, a researcher is faced with a variety of methods and has to make a strategic decision on choosing the method that could be used, in order to gain the best outcome from the research. Before moving any further, one should bear in mind that there is no right or wrong use of a method². A method should be chosen as “fit for purpose”, and has to be reasonable and appropriate to cover specific aspects of the research and identify its problems.

7.2 Content Analysis Defined

Content analysis is a research technique used to determine the presence of certain words or concepts within texts or sets of texts. Researchers are required to quantify and analyze the presence, meanings and relationships of such words and concepts, and then make inferences about the messages within the texts³. Texts can include books, interviews, articles, speeches, historical documents and generally any occurrence of communicative language. In practice, content analysis on any such text involves a procedure where a researcher is asked to divide the raw content/text into readily definable categories on a

¹ Denscombe, M., (1998), ‘The Good Research Guide’, 1st Edition, pp. 1, Published by Open University Press, Buckingham-Philadelphia.

² Denscombe, M., (1998), ‘The Good Research Guide’, 1st Edition, pp. 1, Published by Open University Press, Buckingham-Philadelphia.

³ <http://www.writing.colostate.edu/references/research/content/com2d1.htm>

variety of levels-word, word sense, phrase, sentence, or theme-and then examine the text in order to infer relationships between the data and the context⁴. As Krippendorff (1980) states⁵:

‘Content analysis is a research technique for making replicable and valid inferences from data to their context’.

The fact that this technique can be applied to examine any piece of writing or occurrence of recorded communication makes it a popular research tool in a wide area of different fields, ranging from psychology and social studies, to literature and cultural studies, marketing and media studies, transport and logistics, and many other fields of inquiry.

7.3 Advantages and Disadvantages of Content analysis

Content analysis offers several advantages to researchers who consider using it. However, one should also be aware of any of the disadvantages that content analysis has, both at a theoretical and procedural level. Both the advantages and disadvantages of content analysis are listed in Table 7.1, based on Carleys’ (1992) work.

⁴ Singleton, R., A., Straits, B., C., Straits, M., M., (1993), “Approaches to Social Research”, 2nd Edition, Oxford University Press, Oxford, UK.

⁵ Krippendorff, K., (1980), “Content Analysis, An Introduction to its Methodology”, 1st Edition, pp.7, Vol. 5 of the Sage Commtext series, Published by Sage, London.

Figure 7.1

Advantages and Disadvantages of Content Analysis

Advantages	Disadvantages
<ul style="list-style-type: none">♦ Looks directly at communication via texts or transcripts, and hence gets at the central aspect of social interaction.♦ Can allow for both quantitative and qualitative operations.♦ Can provide valuable historical/cultural insights over time through analysis of texts.♦ Allows closeness to text, which can alternate between specific categories and relationships and also statistically analyzes the coded form of the text.♦ Can be used to interpret texts for purposes such as the development of expert systems.♦ It is an unobtrusive means of analyzing interactions.♦ Provides insight into complex models of human thought and language use.	<ul style="list-style-type: none">♦ It can be extremely time consuming.♦ It is subject to increased error, particularly when the text is coded by theme in order to attain a higher level of interpretation.♦ It is often devoid of theoretical base, or attempts too liberally to draw meaningful inferences about the relationships and impacts implied in a study.♦ It is inherently reductive, particularly when dealing with complex texts.♦ Tends too often to simply consist of word counts.♦ Often disregards the context that produced the text, as well as the state of things after the text is produced.♦ Can be difficult to automate or computerize.
Source http://www.writing.colostate.edu/references/research/content/com2d3.htm	

7.4 Identifying influential attributes in the Trans – Siberian Railway: A

Content analysis

7.4.1 Introduction

This section presents and discusses the results from an application of a content analysis of publications related to the development of the Trans Siberian railway as a link between the Baltic States of Latvia, Lithuania and Estonia and the Far East. The content analysis method was chosen due to the need to employ a formal and efficient methodology for the identification and justification of the attributes, which are hypothesized as influential in the Trans Siberian railway market.

‘Content analysis involves the objective and systematic identification of specific textual characteristics, yielding simple quantitative measures that facilitate the testing of hypotheses and the drawing of inferences from the existing body of literature’⁶.

Therefore, content analysis can provide a formal and systematic means of establishing a specified hypothetical set of testable attributes for the Trans Siberian railway market. The main reason for choosing content analyses is that the specific method provides a set of tools for quantifying the contents of a text, and it achieves that by using a method that is clear and simple, and in principle widely repeatable by other researchers. In addition, content analysis has been applied for research in the transport area the most recent example of which is the work published by Cullinane and Toy (1999) which will be used in this research as an academic baseline⁷.

⁶ Cullinane, K., and Toy, N., (1999), “Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis”, pp. 42. Transportation Research, Part E 36.

⁷ Cullinane, K., and Toy, N., (1999), “Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis”, Transportation Research, Part E 36, pp. 41-53.

7.4.2 Objectives of content analysis

As mentioned earlier, this chapter aims to identify attributes or issues that are influential to the Trans-Siberian Railway market in relation to the Baltic States. Therefore, the first objective will be to identify such factors and examine the level of their importance to the Trans Siberian railway market, using content analysis. The second objective is to identify the markets that influence or will influence in the future, the movement of containers through the Trans Siberian railway.

Moreover, the results derived by the content analysis will be used in order to form a set of statements, which will be presented to the container transit experts of the Baltic Sea, Russian and Far Eastern Regions, in order to derive policies that can: a) contribute to the optimization of the Trans-Siberian railways and, b) assist the Baltic States to attract higher volumes of containers coming from Russia. However, the primary focus of this chapter is to provide a quantitative perspective on the manual literature review.

7.4.3 The methodology of content analysis

7.4.3.1 Research question and hypotheses

As with the most research methods, the starting point for applying content analysis is the identification of a research question and hypothesis. In this case, this is the identification of the main issues or variables governing the Trans-Siberian railway market, and consequently, the role of the Baltic States ports in the Trans Siberian Rail market. These issues or variables will derive from the dominant content categories that will be identified through the analysis of a sample database of literature.

7.4.3.2 Selection of Sampling

Once the research question is formed one should select a sample and code the text into manageable categories. However, the sample selection involves a series of decisions to be made, mainly concerning the number of sources, and the time period constraints. For the specific study a sample was drawn, including sources such as: journals, newspapers, magazines, articles, reports, conference papers, books, and Internet sites. The reason for covering such a large area of information was based on an attempt to have a variety of sources derived from all over the world so that the data is objectively presented so the results can be more accurate. Another reason can be found in Carney's (1972) statement:

*'The greater the sample of data, the less the risk of sample errors'*⁸.

One should be aware that in the content analysis for this research, any transport/railway issue deriving from the data could form a principal source document. Moreover, there are many instances where a particular source may address a number of issues that may not be that relevant to the research question⁹. Therefore, at this point it was decided to apply a certain degree of selectivity, in sections of the source texts that are central to the research interest, bearing in mind, according to Weber (1990), the need to '...preserve the semantic coherence of text units'¹⁰.

The sampling strategies include: simple random sampling, systematic sampling and stratified sampling. In this study simple random sampling has been selected, because it is the most widely employed method, and most recently used in the transportation sector by Cullinane and Toy (1999).

⁸ Carney, T., F., (1972), "Content Analysis: A Technique for Systematic Inference from Communications", 1st Edition, Published by B. T. Batsord Ltd, London.

⁹ Cullinane, K., and Toy, N., (1999), "Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis", Transportation Research, Part E 36, pp. 41-53.

¹⁰ Cullinane, K., and Toy, N., (1999), "Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis", Transportation Research, Part E 36, pp. 41-53.

Data relating only to the container movement via the Trans Siberian railway has been included in this analysis.

7.4.4 Coding scheme

7.4.4.1 Recording units

Once the sample has been drawn, the next step is to define the recording units. The recording unit is one of the most fundamental decisions to be made in content analysis. Recording units are concerned with defining the basic unit of text to be classified¹¹. Frankford–Nachmais and Nachmais' (1996) classify five commonly used types of recording units, single words or terms, themes, characters, paragraphs and items¹².

In this research, data was collected using two different recording units. The 'single words or terms' recording unit, and 'items' unit. The single words or terms method, requires that the researcher code each word or term within the text. This is the most commonly used method in content analysis, because it is considered to be more reliable and clear, compared to the other methods. The process of counting the frequency of a single word or term occurrence (defined as manifest) is considered to be a very reliable method.

*'If due considerations are not given to the context in which the recording unit appears, however, reservations will exist over the extent to which the inferences may realistically be drawn from the data'*¹³.

Robson (1993) suggests that when this is the case, it is necessary for one to consider the context unit. Context unit has been defined as:

*'the largest body of text that may be examined when characterizing a recording unit'*¹⁴.

¹¹ Weber, R., P., (1990), "Basic Content Analysis", 2nd Edition, Published by Sage Publications, London.

¹² Frankfort – Nachmais, C., Nachmais, D., (1996), "Research Methods in Social Sciences", 1st Edition, Published by Arnold, London.

¹³ Cullinane, K., and Toy, N., (1999), "Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis", pp. 47, Transportation Research, Part E 36.

The second recording unit used in this study, was the item method. In this case the whole document is under analysis, and:

‘In terms of the relative emphasis placed on each category, a judgment was made as to the overall message conveyed by a source document. In this way “the “latent” (underlying) content complements the mechanistic analysis of the manifest content’¹⁵.

If one manages to combine both the manifest and latent content within the same content analysis the researcher can achieve a higher level of reliability because if both methods are employed reasonably, the conclusions drawn from both should broadly agree¹⁶.

7.4.4.2 Category construction

As Carney (1972) states, there are no rules for forming categories¹⁷. Moreover as Bailey (1994) states:

‘Only by letting the categories emerge from the documents to be analyzed can the goals of mutual exclusiveness and exhaustiveness be met. Categories constructed without prior inspection of documents would no doubt exclude many important categories and include many that are superfluous or unnecessary’¹⁸.

Therefore, the starting point prior to forming any categories was to inspect a sub-sample of randomly chosen texts. This way every possible category that might emerge from the sub-sample can be included,

‘with the specification of each category becoming increasingly fine-tuned as the review becomes more extensive’¹⁹.

¹⁴ Frankfort – Nachmais, C., Nachmais, D., (1996), “Research Methods in Social Sciences”, 1st Edition, pp. 327, Published by Arnold, London.

¹⁵ Cullinane, K., and Toy, N., (1999), “Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis”, pp. 47, Transportation Research, Part E 36.

¹⁶ Berg, B., L., (1995), “Qualitative Research Methods for the Social Sciences”, 2nd Edition, published by Allyn and Bacon, Boston.

¹⁷ Carney, T., F., (1972), “Content Analysis: A Technique for Systematic Inference from Communications”, 1st Edition, Published by B. T. Batsord Ltd, London.

¹⁸ Bailey, K., D., (1994), “Methods of Social Research”, pp. 307, 7th Edition, Published by Wadsworths Co., New York.

However, because clear-cut issues are the ones which give the best findings²⁰, it was decided that this study would include a certain number of mutually exclusive categories, as derived from the sub-sample inspection, in order to avoid the possibility of spurious results, and to examine the text for very specific variables, whilst staying focused on the task.

Moreover, in order to establish a high level of reliability and validity in the coding, the co-operation of one other researcher was required²¹. Furthermore, in order to avoid any ambiguities among the researchers, Sarantakos (1993), suggests that coding errors can only be minimized and not eliminated, and he proposes 80% as an acceptable margin in order to establish a satisfactory level of reliability²². The categories adopted in this research, through the process described above, are summarized in Table 7.2.

All the categories included in the table below are one way or another influential to the Trans Siberian Railway market, either because they are part of this market or because they have affected the Trans Siberian Railway internally (such as the TSR reconstruction and TSR unreliability categories).

¹⁹ Cullinane, K., and Toy, N., (1999), "Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis", *Transportation Research, Part E* 36, pp. 41-53.

²⁰ Carney, T., F., (1972), "Content Analysis: A Technique for Systematic Inference from Communications", 1st Edition, Published by B. T. Batsord Ltd, London.

²¹ Cullinane, K., and Toy, N., (1999), "Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis", *Transportation Research, Part E* 36, pp. 41-53.

Table 7.2

The Creation of Categories and their Relationship to Underlying Attributes

Category	Variables/Terms covered by category
1. TSR Reconstruction	Reconstruction of the TSR, repairs of the TSR, development of TSR, rail links, foreign investment
2. Korean Market	Korean rail connections with TSR, Korean container market, Korean container transit, competition
3. Japanese Market	Japanese container market, Japanese projects and agreements with TSR
4. Chinese Market	Chinese containers via TSR, Chinese container market, projects with TSR
5. USA Market	USA, Pacific region container movement via TSR, agreements with TSR.
6. TSR Unreliability	Strikes, accidents, blockage
7. Finnish Market	Finnish market, railway connections to TSR, container volumes by rail and sea
8. Kazakhstan Market	Kazakhstan container market
9. BAM (Baikal-Amur railway)	BAM, alternative route, benefits
10. Container flows	Movement of containers via the TSR, container routes to western Europe for TSR containers.

7.4.4.3 Systems of enumeration

Both Baily (1994)²³ and Weber (1990)²⁴ provide a detailed analysis of all systems of enumeration available to a researcher. However, among the systems available to a

²² Sarantakos, S., (1993), "Social Research", 1st Edition, Published by Macmillan Publications, Australia.

²³ Bailey, K., D., (1994), "Methods of Social Research", 7th Edition, Published by Wadsworths Co., New York.

²⁴ Weber, R. P., (1990), "Basic Content Analysis", 2nd Edition, Published by Sage Publications, London.

researcher, the following four are the most commonly applied systems of enumeration: appearance, intensity system, frequency, and time-space.

The system of enumeration is considered to be the most widely applied approach in content analysis. A researcher can analyze texts by examining the highest frequency words. Employing this system means that every occurrence of a recording unit is counted²⁵. One of the most obvious assumptions usually made in this system is that

‘the most frequently appearing words reflect the greatest concerns’²⁶.

In this study the frequency system was employed because: a) the intention of this research was to achieve a range of influential issues/attributes concerning the Trans Siberian railway market. Therefore adoption of a manifest content (frequency of single word occurrence) analysis seems the most appropriate. In addition, the latent content (the largest body of the text that may be examined when characterizing a recording unit, such as an article) was adopted in order to ensure that any inferences drawn from the manifest analysis are realistic. In addition:

‘By analyzing latent content at the level of the whole document, any obvious distortions caused by assumptions should become apparent’²⁷.

Moreover, one should be aware that since an ‘item’ unit system was also used, its results would be analysed based of the appearance of the ‘item’ in the text.

7.4.5 Content analysis Results

As one can see Table 7.3 presents the summary statistics as derived from a manifest content analysis of 399 articles found in various journals (including academic), internet

²⁵ Adams, W., and Shrieberman, F., (1978), “Television Network News: Issues in Content Research”, Published by Washington University Press, Washington, DC.

²⁶ Weber, R. P., (1990), “Basic Content Analysis”, 2nd Edition, pp. 51, Published by Sage Publications, London.

²⁷ Cullinane, K., and Toy, N., (1999), “Identifying Influential Attributes in Freight Route/Mode Choice Decisions: A Content Analysis”, pp. 47, Transportation Research, Part E 36.

sites and newspapers, relevant to the Trans Siberian railway subject area. Appendix 3 contains various journals used for this analysis as well as the number of articles found relevant to the construct under investigation. However, in order to proceed to the analysis of these articles, an enumeration system must be adopted.

Table 7.3

Summary Results of Manifest Analysis Using the Word or Term Enumeration Measure

Category	Number of mentions	Percentage of total mentions	Rank
Baltic States Market	45	2.4	7
BAM	38	2.0	8
Chinese Market	68	3.6	4
Finnish Market	49	2.6	6
Japanese Market	132	7.1	3
Kazakhstan Market	36	1.9	9
Korean Market	1012	54.8	1
TSR Reconstruction	53	2.8	5
Container Flows	32	1.7	10
TSR Unreliability	350	18.9	2
USA Market	29	1.5	11
Total	1844	100	

The Korean Market was found to be the most important issue, when determining the main issues influencing the Trans Siberian Railway market. Indeed while conducting the content analysis the Korean market appeared to be a major issue and closely related to the TSR and the Baltic States, mainly due to the issue of the re-establishment of a new rail connection

between South and North Korea and its impact upon the transit of containers by the TSR. In addition, the existing movement of Korean containers via the TSR and the Baltic States ports of Riga and Klaipeda to Western Europe was an additional factor.

Surprisingly, the unreliability issues governing the TSR were the second biggest category that appeared in the results in Table 7.3. The unreliability of the TSR is an issue that appeared to concern a number of potential foreign investors. In the past a number of strikes and accidents cost companies using the TSR a great deal of time and money. Moreover, the issue concerning the security of containers was another matter commonly mentioned in a number of articles.

The Japanese market was the third major issue derived from content analysis. This was a very interesting result. As mentioned earlier in this report the first agreement signed for the movement of cargo via the TSR was between the USSR and Japan. However in the last decade Japan has been rather apprehensive with regard to resuming shipment of containers to Europe via the TSR mainly because of the negative experience they had nearly a decade ago where Japanese operators suffered losses due to the inefficiency of the TSR²⁸.

The Chinese market was the fourth main issue. The new railway line (Primorye line) connecting key segments of Russia and China was established in 2000²⁹. However, China can use alternative routes for the movement of containers to Europe, mainly via the Inland route (Chapter four), but the costs for customs and the crossing of several borders, makes TSR more appealing due to the fact that it is cheaper and faster.

The fifth main issue was reconstruction of the TSR. The reconstruction of parts of the TSR is a process which started in 1999, and was still incomplete in 2001. However, in 2000 the new railway line (Primorye line) connecting key segments of Russia and China was

²⁸ Pak, M., S., and Kim, T., Y., (1996), 'A Plan for Co-operation in Transport Between South and North Korea', *Transport Reviews*, Vol. 16, No. 3, pp. 225-241.

established, offering the opportunity for TSR operators to reach the rest of China and beyond³⁰.

The sixth major issue derived from the content analysis related to the Finnish market. At the moment the Finnish market is a very favorable market for Russia. This is due to the good political relations between the two countries, and the fact that 80% of the containers moving via the TSR are heading to Finnish ports for transit or storage³¹. However, the costs involved are rather higher when compared with the Baltic States ports.

Last but not least, the Baltic States was an important market that was ignored in the past due to lack of transport infrastructure, safety and organization. However, according to many articles the Baltic States is steadily increasing its share in the TSR market as well as Eastern and Western Europe as a whole. This is mainly because the three Baltic States of Estonia, Lithuania and Latvia, have managed in the course of ten years (since their independence), to improve their economy, to integrate into the concept of an open market, improve their transport infrastructure (mainly in sea transport) and restore their negative image to customers.

In addition to the manifest analysis presented, a latent analysis was conducted in order to achieve more accurate results. By applying content analysis on the basis of an item unit of analysis, the articles were classified according to the main themes influential to the Trans Siberian railway study. Table 7.4, shows the results of the latent analysis, using the item unit of analysis.

This use of item unit analysis is considered to be a more subjective approach because the researcher is called to use his judgment into which category the main theme of an article should fall. However, in this study, one has to be aware that, any article where the main

²⁹ Containerisation International, (1999), 'China/Russia Freight Corridor Near', September.

³⁰ The Russian Journal, (2001), 'Sino-Russia Ties that Bind', June.

theme was not obvious or where more than one theme was found, the article in question has been excluded from the analysis.

Under this measure of content, it is important to notice that the main seven categories derived from the previous method of analysis do not match exactly with the results of the item units analysis. However, the two top categories in this analysis match the top two categories in the manifest analysis, and this is a clear indicator that the Korean market and the unreliability of the TSR are two very important issues that need careful examination.

Figure 7.4

Summary results of latent analysis using the item unit of analysis
(Includes only articles where a dominant theme could be identified).

Category	Number of articles where dominant theme	Percentage of dominant rate	Rank
Baltic States Market	24	8.1	3
BAM	12	4.0	9
Chinese Market	19	6.4	7
Finnish Market	23	7.8	4
Japanese Market	21	7.1	6
Kazakhstan Market	8	2.7	10
Korean Market	84	28.5	1
Reconstruction	22	7.4	5
Container flows	11	3.7	8
Unreliability	65	22.1	2
USA Market	5	1.7	11
Total	294	100	

In addition, what is interesting is the fact that the Baltic States market is third in ranking and this indicates that this is an important part of the Trans Siberian Railway market.

³¹ Zurek, J., (2001), 'The Role of Seaports in Region Development', Published by the University of Gdansk, Poland.

On the contrary the Chinese market category is seventh in latent analysis and this leads one to conclude that although there were not many articles referring to this issue, the issue itself was mentioned many times within those articles where the dominant theme was the Chinese market.

Moreover, it is rather interesting to see that the rest of the category results do not quite match in ranking the results of the word enumeration measure. Likewise, it is worth mentioning that all the categories are still present under this method, and none of them has been excluded in any content analysis approach. This is important because when Cullinane and Toy (1999), applied the item unit analysis, five of the pre-defined categories that they formed, dropped out, one of which was included within the main five categories of the results of manifest analysis.

The results of the various forms of content analysis employed in this study, generally confirm what was expected to be the most important issues concerning the Trans Siberian railway in the context of the Baltic States ports. However, the issue of unreliability was not expected to have such an impact.

This means that most attention was paid to the seven dominant categories derived by latent analysis, concerned with unreliability of the Trans Siberian Railway, and the influence that the Far East and Baltic Sea markets have upon the Trans Siberian railway. In addition, the three categories concerning Kazakhstan and USA market as well as container flows, were not ignored, but were used to form a small number of questions within the statements. The reason that the remaining three categories would be used, later in this research for creating a set of statements, was because all the categories found, were relevant to the construct under investigation and thus of some importance to the research.

More specifically, the Kazakhstan market is important for the TSR market, because based on information obtained while conducting content analysis, the railway system of this country is not only connected with the TSR, but also all three Baltic States are in the process of reaching agreements with Kazakhstan, for the movement of Kazakhstan containers via the TSR and the Baltic States ports, to Western Europe.

In addition, based on information collected while conducting content analysis, the USA has undertaken studies and examined the possibility of constructing a rail tunnel connecting Alaska to the TSR. Such plans can influence positively the TSR market and subsequently the Baltic States market.

Likewise, there are container flows that move via other Asian countries to Europe whilst a lot of the TSR container flows to Central Europe are handled by Poland and Germany. This kind of information is important to the research because it can contribute to collecting information that can later determine the formation of policies for the Baltic States.

However, the category concerning BAM was dropped because the Baikal-Amur railway only involves the movement of coal and oil, neither of which was relevant to this research.

The results of the two different forms of content analysis employed in this study, generally confirm what most would expect to be the important issues concerning the Trans Siberian railway in the context of the Baltic Sea ports.

CHAPTER EIGHT

SCALING DEVELOPMENT

8.1 Introduction

By now the Content Analysis has established the main issues related to the construct under investigation. This is very important because if the researcher does not determine the main issues or themes related to his/her project, he/she will not be able to move on to the next stage of the research. This chapter aims to provide insights into scaling development and more specifically an analytical presentation of the creation of the scale that will be presented to the experts of the Baltic Sea, Russian and Far East region. The table below presents the advantages and disadvantages of the scaling methods.

Table 8.1

Advantages and Disadvantages of the Scaling Methods

Advantages of Scaling Methods	Disadvantages of Scaling Methods
<ul style="list-style-type: none"> ♦ Efficiency. ♦ Easy to use. ♦ Inexpensive. ♦ Readily available. ♦ Takes very little time or energy on the part of either the practitioner or client. ♦ Easy to administer and score. 	<ul style="list-style-type: none"> ♦ Since they deal with predetermined questions and problems, they may not be exactly or completely suited to all the specific characteristics of the problem one is faced with. ♦ Tend to be broad banded and tend not to be very direct measures of a problem.
<p>Source: http://www.uic.edu/classes/socw/socw560/SCALING/sld011.htm</p>	

8.2 SCALING DEVELOPMENT FOR THE BALTIC STATES REGION

Prior to taking any decisions related to the selection of a method for collecting data or the development of a scale, a researcher has to clarify what the scale is called to measure. This

project aims to measure the opinion of the experts on issues, derived earlier from content analysis, related to the role of the Baltic States ports in the Trans Siberian Rail market.

Even though, there have been many scales developed over the years to measure a variety of different constructs, there has not been any specific scale developed that measures the opinion of experts on the role of the Baltic States ports in the Trans Siberian Rail market. Therefore, the author had to create her own scale.

Devising a completely new scale that would be capable of identifying the construct under investigation was very time consuming. Hence, the author had to make sure that she would develop a scale in order to reduce any possible errors that might occur at a later stage of the research related to the quality of the scale.

Once the construct to be measured has been determined, the next step is to choose a target population. For this project the target population would be industry, government, academics and journalist experts from the Baltic Sea Region, Russia, CIS States and the Far East.

The next step is to decide the kind of method for the collection of data to be used. Since this research aims to identify experts opinion questionnaires seem to be the most appropriate method for the collection of data. However, before moving any further, one should keep in mind that:

‘There is no golden formula which, if slavishly adhered to, will ensure success and fend off all potential criticisms, Almost inevitably, the researcher will need to apply discretion, make trade-offs and exercise judgement when producing and implementing a questionnaire’¹.

¹ Denscombe, M., (1998), ‘The Good Research Guide’, 1st Edition, pp. 87, Published by Open University Press, Buckingham-Philadelphia.

Nevertheless, in order to succeed in measuring this construct, it is essential to form a pool of items. The reason for choosing a multi-item measure is based on the fact that:

‘Where there is an underlying central conceptual entity, with a number of facets, a single question can not tap all the facets’².

Usually the items of information derive from conventional literature review documents, such as, questionnaires, reference texts, other reports, articles, or by interviewing knowledgeable people, for the kinds of information associated with each variable³. Nonetheless, in this project, it was decided that the pool of items would emerge from the categories derived from Content Analysis.

This way the author would be able to form a set of items that is more likely to have a higher level of validity and reliability. Another reason for the use of the themes derived from content analysis is the fact that these themes or categories have been, after collaboration with another colleague, tested and have achieved 80% reliability. The author’s colleague ran a content analysis on the researcher’s construct under investigation and determined that the results from both analysis have a reliability of 85%.

This way the author can assume that the items that would emerge from these categories would be considerably valid and reliable and would not disturb the internal consistency and coherence of the scale under development. However, all the necessary tests that determine the quality and reliability of the items and the scale itself, will be conducted later in this chapter.

At this point it should be emphasised that the scale would include items that might not look very closely related to the Baltic States ports but rather more closely related to the Trans

² Loewenthal, K., M., (2001), ‘An Introduction to Psychological Tests and Scales’, 2nd Edition, Published by Psychology Press Ltd, London.

³ <http://www.ndu.edu.ndu/irmc/mop98/m22-02.html>

Siberian Railway as an export route for containers in transit from Russia and Far East. This is because content analysis has shown that issues related to the unreliability or reconstruction of the TSR can influence subsequently the potential role of the Baltic State's ports as a gateway market for the TSR containers.

In addition, the categories related to the Far East market are expected to have an impact upon the Baltic States as a gateway market because as presented in chapter 3 there is transit of containers from Far East via the TSR to the ports of Riga and Klaipeda. Moreover, the categories of the Finnish and Baltic States markets have been merged, because one of the objectives of this research is to examine the potential of the Baltic States ports in the TSR containers market , in competition with the Finnish ports. Table 8.2 illustrates the categories as derived from Content Analysis and the items emerging from them.

Table 8.2
Items Emerged by Content Analysis

Category	Items Emerging from Each Category
<u>Reconstruction</u>	<ul style="list-style-type: none">♦ Reconstruction of TSR will improve the state of efficiency of the TSR and reduce freight charges.♦ The modernization of the TSR could lead to the creation of an international rail network with the Baltic States, creating a new market that can attract more cargo moving from the Far East to Western Europe.

Korean Market

- ♦ The reconstruction of the rail link across South and North Korea will lead to a connection with the TSR, which would allow Russia to become a transport bridge between South and North Korea's export-driven economy with the Baltic States and Western Europe.
- ♦ The reconstruction of a rail link across South and North Korea with the TSR would dramatically reduce the cost and time needed for moving containers from the Korean peninsula to Russia and Western Europe.
- ♦ Rival competition from China and Mongolia could lead to re-routing the Korean container flows through their borders to Western Europe.

Japanese Market

- ♦ The construction of a Europe-Russia- Japan corridor would be of strategic importance because it will secure a maximum use of the TSR and the Baltic seaports.
- ♦ Japanese companies will continue moving containers via the deep-sea route to Western and Central Europe, if the TSR rates are not competitive enough.
- ♦ Japan is rather apprehensive with regard to resuming shipment of containers to Europe via TSR due to the negative experience they had 12 years ago due to the inefficiency of the TSR.

Chinese Market

- ♦ The new line between Russia and China can become a bridge for Russian companies to connect China with European markets.
- ♦ The trade between the two countries will rise because of this new line.

USA Market

- ♦ Projects providing for a link-up of Russia's TSR with railways in North America will play a prominent role in promoting the East European economy of the 21st century.
- ♦ The agreement between TSR and Alaska shows that the potential for transportation of containers in the former USSR region is huge.

Finnish and Baltic States Markets

- ♦ The Baltic ports are efficient, secure, cost effective, and ice free. Therefore, they can compete with Finnish ports and re-route a high share of these container flows to the Baltic ports.
- ♦ Baltic States can dominate as transit ports for container flows moving via TSR to Western Europe.

Unreliability

- ♦ The Russian Ministry of Railways would have to adopt policies in order to avoid such incidences happening again because it can result in losing clients as in the past.
- ♦ The Russian Ministry of Railways would have to focus on re-establishing the old glory of the TSR in order to attract more investors and increase container flows.

Container Flows

- ♦ Russian companies can reroute some of these flows to Vostochny port and then via the TSR to Baltic ports heading for Western Europe.
- ♦ Baltic State's operators would be able to compete if they offer lower prices.

Kazakhstan Market

- ♦ A unification of the Russian and Kazakhstan transport routes may provide a base for several projects, profitable for both countries as well as for the Baltic States, which would be able to use Russian and Kazakhstan territory for transit.

As mentioned earlier, the length of the scale should not be very short or long. However, since the aim of this project is to extract the experts' opinion of the potential of the Baltic States ports of the Trans Siberian Railway, the scale should be quite long in order for the respondents to assign meaning to the results. However, the scale should not be over long in order to avoid placing any burden on the respondents. From the researcher's point of view the most appropriate length is to employ a longer scale because the respondent's opinions

are vital in establishing a reliable outcome for the ultimate aim of adopting policies for the Baltic State region. Hence, the researcher has decided that all 19 items would be included in the scale, even at the risk of causing discomfort to the participants.

Once the pool of items had been drawn up, the author decided before continuing any further with scale development, to ask three academics and one research student knowledgeable with the Baltic Sea Region, to go through the nineteen items presented above, and state whether there were any readability problems.

Once the results showed that all items were clear, the format for measurement had to be determined. After examining the advantages and disadvantages of all the scaling methods analysed earlier and considering the needs of this research, the Likert Scale was chosen as the most appropriate format, suitable to meet the needs of the construct under investigation. There are a number of reasons for selecting Likert Scale from other formats.

These are:

- ♦ It is one of the dominant methods of measuring social and political attitudes.
- ♦ It is very easy to develop.
- ♦ It can produce scales with high level of reliability and validity.
- ♦ It is relatively inexpensive.
- ♦ No judges are used to rank the scale statements, and therefore it is not that time consuming.
- ♦ The writing of items is straightforward.
- ♦ It can be treated as an interval scale which is important because then the author can use parametric tests, which are more reliable tests.
- ♦ It is usually quick and easy for respondents to complete and typically does not induce complaints from them.

Since the characteristics of the Likert Scale have been analysed earlier, at this point the structure of constructing the scale is presented. The Likert scale provides a way for respondents to qualify varying degrees of agreement or disagreement with the given statements. These should be items that can be rated on a five 1-5 or 1-7 scale. The example below is one most commonly used Likert Scale:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	4	3	2	1

However, in 1975 Worcester and Burns showed that it is also possible to use a forced-choice response (0-4) scale with an even number of responses and no middle neutral or undecided choice⁴.

One can see below the format of the item scale:

Strongly Agree	Agree	Disagree	Strongly Disagree
4	3	1	0

Initially, the author decided that the 4-point scale would be used as a value list. In this case, the respondents would be forced to decide whether they lean more towards the agree or disagree end of the scale for each statement. Originally, it was thought that the four point scale could contribute towards avoiding any problems in defining the clarity of the meaning of the total score of an individual respondent. This concern was mainly based on the fact that many patterns of response to the various statements might have produced the same score when more options were available⁵.

⁴ <http://marketing-bulletin.massey.ac.nz/article2/research3b.asp>

⁵ Burns, R., B., (2000), 'Introduction to Research Methods', 4th Edition, Published by Sage Publications, London.

Moreover:

‘resorting to a scale without a mid-point seems to help alleviate this social desirability bias without changing the direction of opinion’⁶.

However, after consulting a professional statistician, the author decided to use the 1 –5 scale. This was due to the fact that the 1-4 scale has not been tested sufficiently and therefore there was no example of how to apply it or even analyze the results. In addition, 1-5 is the most widely accepted and used scale. Moreover, the ultimate aim of this research is to see how the experts respond to different items and not to push them in any extreme direction because then the results may not reflect actual opinion. Appendix 4, contains a copy of the scale with all 19 items included.

Once the format was designed a number of experts were asked to review the pool of items in order to establish its relevance to the construct. The sample of respondents for this project included: shipping and railway companies, port authorities, forwarders, government bodies, academics, and journalists, who are closely related to the Baltic States, Russian and Far East regions. More details about the participants will be provided in the next chapter.

The questionnaires were mainly sent through the post. This generally involved a large-scale mailing, covering a wide geographical area of the Baltic States, Russia, Finland, and the Far East. However, usually the proportion of people responding to postal questionnaires is quite low (10-15%)⁷.

The stage for the collection of data lasted nearly one year and during this time period, 43 questionnaires were collected in total. Although, one might think that 43 is a rather small sample, one should bear in mind that the experts who are closely familiar with the issue

⁶ <http://marketing-bulletin.massey.ac.nz/article2/research3b.asp>

⁷ Denscombe, M., (1998), ‘The Good Research Guide’, 1st Edition, pp. 87, Published by Open University Press, Buckingham-Philadelphia.

under investigation is rather small as well. In general terms, the sample obtained for this research is considered to be very good.

The next phase of scale development was to insert the responses for every statement from those 43 experts into the SPSS 11.5 computer package, in order to establish the inter-correlation of the items, by analyzing the correlation matrix. The reason for choosing SPSS was because it is a widely accepted computer package and it is easy to use compared with other alternatives. This procedure would result in poor items being discarded⁸. As was mentioned earlier, in step seven on how to create a scale, there are various methods available to a researcher in order to examine the correlation matrix : Reverse scoring, Item-scale correlations, Item variances, Item means, and Coefficient alpha. The most important and reliable methods are the Item-scale correlations and the Coefficient alpha, whereas the remaining methods are used usually in the case when a researcher wishes to double check results.

Therefore, this study analyzed the correlation matrix by using the Item-scale correlations method. The main reason for looking at the Item-scale or Item-total Correlations, is in order to determine which items are statistically responded to in the same manner and are thus (theoretically at least) measuring the same construct, which in this study is the opinion of the experts on certain issues related to the role of the Baltic States ports in the Trans Siberian Rail market. Appendix 5 presents a table indicating the number of participants that responded to all the statements, their occupation and the scores that have been given for each one of the items. One must keep in mind that each number indicates a level of agreement starting at 1(strongly agree) to 5 (strongly disagree). Once all these scores have been inserted in the SPSS 11.5 package and the Item-total Correlations test has been performed, SPSS provides automatically the correlation matrix as shown in Appendix 6. The Item-total Correlations are given in the very last column of the correlation matrix. A

⁸ Jackson, C., (1996), 'Understanding Psychological Tests', Published by BPS books, Leicester.

correlation co-efficient of above $+.3$ is acceptable. On the contrary if there is a correlation below $+.3$ it is considered to be too weak to constitute a good relationship with the overall scale theme and it suggests that the item is measuring something other than what the researcher had intended. Out of the total 19 items originally chosen for this research, only those items that have a good Item-total Correlation co-efficient must be selected. However these items also need to have a significant Item-total Correlation co-efficient at $p < .05$ or $.01$. In the correlation matrix this is always represented by a small single star (for $< .05$) or double star for ($< .01$) next to the Item-total Correlation for every item. So, by looking at the results only these items that have a correlation co-efficient above $+.3$ and one or two stars attached to them qualify as acceptable items and should be included in the scale. This means that all the items included in the analysis, except items six, seven and sixteen, can remain in the scale. The three negative items must be excluded from the final analysis that would result in forming policies for the Baltic States region.

Another quick and easy way to establish if items are acceptable or not, is to look at the histograms of the items. A histogram is designed to illustrate the frequency with which the respondents have picked each of the researchers' response options. The reason for looking at the histograms is because we wish to see which items were responding in a varied way (a flat histogram where all the answers are equally distributed is good, because it means that the researcher has equal number of respondents in each category). Appendix 7 shows the histograms for the 16 good items. As one can see from all the 16 histograms illustrated in Appendix 7, there are no flat histograms and this indicates that the respondents' answers are not equally distributed for each category option. This is not necessarily bad because one should keep in mind that this research aims to collect experts' opinions in order to form a set of policies for the Baltic States region. That means that if for an item most respondents have selected the same option, (for example, the agree option) this helps the author to form an idea of what the final policies might include and indicate. More specifically, the author can more easily extract information from an item that, for example,

most of the participants have agreed with, rather than if they have taken a neutral position and therefore the author can make more assumptions about the final policy outcome.

Nonetheless, although this might be a quick and easy method to see the way that the participants are responding to each item, one should not rely on this method as the primary source of decision making.

The next step was to conduct an item variance in order to make sure that the items included in the scale are good discriminators. The same package (SPSS) was used in order to determine the variance of each one of the remaining 16 items. As noted earlier in this chapter a high level of variability means that people are responding in a different way to an item. However, if the variance amounts to zero, then this will indicate that all the participants are responding in exactly the same way. In Appendix 8, one can see the results of the item variance.

These results indicate that there is not a high level of variability in the way that the experts respond to an item. However, one should be aware that such a result was expected, due to the fact that in order to run the item variance technique one must have a large sample so the item variance technique can peak at the differences of variability of items. But in this study where the sample is large, it is more difficult for the item variance technique to pick up any high differences among items.

Therefore, in order to establish consistency and reliability a co-efficient alpha technique was adopted. This parametric technique is very powerful compared with other non-parametric similar techniques (such as Spearman Brown) due to the fact that the co-efficient alpha or Cronbach's alpha looks at all the possible item pairs and calculates reliability based on them⁹. In a few words this statistical technique is used to determine the responding patterns of individuals to the items in an effort to determine how well the items

⁹ Roberts, M., J., and Russo, R., (1999), 'Analysis of Variance', 1st Edition, Published by Routledge, London.

correlate with each other. If they correlate well then the reliability must be over $+0.7$, and therefore one can assume that all the items are statistically measuring the same construct.

Appendix 9 illustrates the results of the co-efficient alpha conducted for this research. In the table presented in this appendix, there are several columns of information but the overall alpha level can be seen at the end. The reliability co-efficients show the overall internal consistency of this study's scale. This number normally should be over $+0.7$ and as close to 1.0 as possible. After running the co-efficient alpha for the 16 remaining items of the scale the results have shown that the reliability achieved is $.836$. According to DeVellis a co-efficient alpha between $.8$ and $.9$ is very good. However, in order to check if the three items removed earlier for the final analysis are indeed negative, another co-efficient alpha was conducted, including this time all 19 items as originally presented. As one can see in the same appendix, this time the co-efficient alpha has dropped from $.836$ to $.7985$. Nevertheless, one can argue that since the total alpha is over $.7$ and therefore still acceptable, why not keep the remaining three items? The answer would simply be that at least statistically, those three items have proven to be negative and not well correlated to the other 16 items and therefore, in theory should not be included in any further testing. Hence, those three items were not statistically analyzed any further together with the remaining 16 items. However, because in practice those three items retain some useful information they are analyzed in the next chapter separately in order to establish how the experts have responded to each one of them.

In theory the next step would be to develop a new scale where only the remaining 16 items should be included, and then present the new scale to a whole new sample. However, in practice things are very different and more difficult than in theory. Firstly, although 16 items were proven to be statistically good, the researcher wanted to include all 19 items originally formed because they are important to the research. In addition, the same sample for the analysis of the results as derived from Likert scale was wanted because it is very

difficult to find experts in the Baltic Sea, Russian and Far East region, who are closely familiar or working with the construct under investigation and are also willing to co-operate.

The initial 19 statements would be used with the help of statistical techniques to translate these different opinions of experts into quantitative terms and from there into policies for the Baltic States region. Nonetheless only the scores of the 16 good items would be included in the analysis in the next chapter.

CHAPTER NINE

ANALYSIS OF THE RESULTS

9.1 Introduction

This chapter aims to analyse the results derived from the questionnaires collected, in order to provide the basis for future policies for the Baltic Sea region. The chapter is divided into three sections. The first section provides the background for the analysis, while section two provides a detailed analysis of the statistical techniques used, and the results found after applying these techniques. Moreover, the third section of this chapter provides a descriptive statistical presentation of each statement, followed by anecdotal data derived from the experts in the region.

9.2 Section one: The Background to the Analysis

The sample used for the purpose of this research included the majority of the maritime and railway related companies, forwarders, and insurers, operating in the Baltic Sea, Russian and Far Eastern region. Moreover, the same sample included government representatives from the Baltic Region, journalists and academics from various Maritime academies in the region. The population size of the experts in this region is not very big and thus 180 questionnaires were sent by post, out of which forty-three responses were received, which is a 24% response rate. Although, this is considered to be a very good response rate in research terms, initially the author of this study expected a higher rate of response. However, the achieved response rate of 24% and sample size of 43 are considered very good compared to the percentage of response rates or the sample size in other logistic studies (12.8% by Mentzer (1992)¹, 15% by Murphy and Daley (1994)², 11.1% by Sum

¹ Mentzer, J., T., Schuster, C., P., and Roberts, D., J., (1992), 'Microcomputer Versus Mainframe Usage in Logistics', Logistics and Transportation Review, Vol. 26, No. 2, pp. 115-131.

and Teo (1999)³, sample size of 35 by Lancioni and Grashof (1995)⁴). This can be explained better by examining the history of the region. After 45 years of Soviet control, the behaviour pattern of not being open to the outside world remains quite strong. In Soviet times, the companies were ordered not to give away any information related to their annual performance. This pattern has been changing slowly since the collapse of the Soviet regime, mainly due to the introduction of the Baltic States into a market economy, foreign investments and the influence of Western Europe culture. Nevertheless, there is still a sizeable number of people involved in the transport industry in this region, who are not willing to assist or co-operate with outside research.

A month after sending the questionnaires, e-mails were sent to those experts who had not responded, in order to encourage them to co-operate.

As far as the statistical techniques is concerned, as mentioned in the previous chapter, the Likert scale will be treated as an interval scale in order to allow the author to apply parametric tests. These tests include one-way Analysis of Variance and independent sample t-test. Both tests are widely used in social research and are very reliable and accurate. In addition, one should be reminded at this stage that even though all 19 items were included in the questionnaires sent to the experts, while conducting these parametric tests only the 16 items found to be statistically inter-correlated would be used for the analysis presented in the second section of this chapter. However, before moving any further, it is necessary to introduce and explain a number of concepts which are related to the analysis of the results and will allow readers to understand the outcome of the analysis.

² Purphy, P., R., and Daley, J., M., (1994), 'Logistics Issues in International Sourcing: An Exploratory Study', *International Journal of Purchasing and Materials Management*, pp. 22-27.

³ Sum, C., C., and Teo, C., B., (1999), 'Strategic Posture of Logistics Service Providers in Singapore', *International Journal of Physical Distribution and Logistics Management*, Vol. 29, No. 9, pp. 589-605.

⁴ Lancioni, R., and Grashof, J., (1995), 'Physical Distribution Organization and Information Systems Development: Their Status Among America's Business Firms', *International Journal of Physical Distribution and Logistics Management*, Vol. 25, No. 7, pp. 265-273.

9.2.1 Dependent and Independent Variables

Usually when a researcher adopts an experimental design he/she will have to manipulate the independent variable in order to measure any consequential alterations in the dependent variable, while testing a hypothesis⁵. If the experiment is performed properly it is assumed that the changes in the dependent variable are the results of the changes in the independent variable⁶. Nevertheless, the distinction between dependent and independent variables is not restricted only to experimental research, but can be found in correlational studies as well⁷.

In this research, the type of the respondents (see Appendix 5), derived from the occupation of the experts is the independent variable. In addition, depending on the parametric test performed in this study, this independent variable can have different levels or groups, the largest of which is four (Industry, Academics, Government, Journalists), three levels/groups (Industry, Academics, Government/Journalists), or two (Industry, Non-Industry). However, more about these levels /groups is provided later in this chapter.

The dependent variables will be presented during the analysis of the results due to the fact that they might vary depending to the type of parametric test performed. For example, in different instances the dependent variable can be an item, a total score, or a group of variables.

9.2.2 Within-Subjects and Between-Subjects comparisons

Before a researcher moves into analysing the results of his/her survey, it is vital to make sure that a correct test is applied. There are two types of comparisons, which can determine the type of statistical test. The first type is based on the notion that:

⁵ Foster, J., J., (1993), 'Starting SPSS /PC+ SPSS for Windows: A beginners guide', 2nd Edition, Sigma Press, Wilmslow, UK.

⁶ Punch, K., F., (1999), 'Introduction to Social Research' Quantitative & Qualitative Approaches. Published by SAGE publications, London.

⁷ Foster, J., J., (1993), 'Starting SPSS /PC+ SPSS for Windows: A Beginners Guide', 2nd Edition. Published by Sigma Press, Wilmslow, UK.

‘If scores on two or more variables come from the same respondents, comparing the scores involves related (within-subjects) comparisons’⁸.

More specifically what the statement above indicates is that a within-subject analysis can determine the way that a respondent responds to different items. Nonetheless:

‘If the scores being compared are obtained from different respondents, they are compared using independent groups (between-subjects) procedures’⁹.

Likewise, the between-subjects procedure can provide one with information concerning the way that different respondents or groups respond to each item (statement)¹⁰. Usually, there are different statistical tests that are appropriate to use for either within-subjects or between-subjects comparisons. Therefore, it is important to know which comparison type to adopt for the study, and thereafter to find a test that can run this type of comparison¹¹. Nevertheless, there are tests that can perform both types of comparison effectively, one of which is ANOVA, adopted for this research. Therefore, these two types of comparison will be examined later in this chapter because they are fundamental parts of the ANOVA analysis.

9.2.3 Statistical Inference and Significance

As was mentioned in the introduction of this chapter, descriptive statistics will be used in order to summarize and describe the data. However, it is very important while analysing data to have some kind of tool that can determine whether the acquired statistical figures are true or not¹². Statistical inference is a vital tool that helps one in the decision-making

⁸ Foster, J., J., (1993), ‘Starting SPSS /PC+ SPSS for Windows: A Beginners Guide’, pp. 7, 2nd Edition, Published by Sigma Press, Wilmslow, UK.

⁹ Foster, J., J., (1993), ‘Starting SPSS /PC+ SPSS for Windows: A Beginners Guide’, pp. 7, 2nd Edition, Published by Sigma Press, Wilmslow, UK.

¹⁰ Cramer, D., (1994), ‘Introducing Statistics for Social Research’, 1st Edition, Published by Routledge, London.

¹¹ Lindsey, J., K., (1996), ‘Parametric Statistical Inference’, Published by Oxford Clarendon Press, Oxford.

¹² Lindsey, J., K., (1996), ‘Parametric Statistical Inference’, Published by Oxford Clarendon Press, Oxford

process whilst analysing data using descriptive statistical techniques¹³. Therefore, when a result is said to be statistically significant, it means that this result is true and has not occurred by chance or other extraneous variances¹⁴.

For example, assume that a significance test examines the difference between the scores obtained by two groups and compares it with the amount of variation in the scores, which arises due to chance. If the chance variation is likely to have produced the difference between the two groups, then one concludes that the difference is non-significant, which basically means that the difference probably arose from the chance variation¹⁵. In this case one should conclude that there is no statistically significant difference between the groups and that the result is true¹⁶.

If one generalises that the difference between two or more groups is likely to have arisen due to chance variation in the scores, then one should conclude that there is non-significant difference among the groups¹⁷. However, when the difference between two or more groups has not been caused by the chance variation in scores, then one can conclude that there is a statistically significant difference between the groups¹⁸.

Nonetheless, that makes one wonder if there is any kind of measure that can determine the significance level? Well, in social studies the most widely accepted significance level is 0.05 or more specifically the probability that an observed event occurred by chance is less than 5 times in one hundred¹⁹. This means that if the significance level is below 0.05 then

¹³ Coakes, S., J., and Steed, L., G., (1991), 'SPSS: Analysis Without Anguish', 2nd Edition, Published by Wiley & Sons, London.

¹⁴ Coakes, S., J., and Steed, L., G., (1999), 'SPSS: Analysis Without Anguish', 4th Edition, Published by Wiley & Sons, London.

¹⁵ Foster, J., J., (1998), 'Starting SPSS /PC+ SPSS for Windows: A Beginners Guide', pp. 7, 3rd Edition, Published by Sigma Press, Wilmslow,

¹⁶ Foster, J., J., (1998), 'Starting SPSS /PC+ SPSS for Windows: A Beginners Guide', pp. 7, 3rd Edition, Published by Sigma Press, Wilmslow,

¹⁷ Field, Andy, (2000), 'Discovering Statistics', 1st Edition, Published by SAGE Publications, London.

¹⁸ Field, Andy, (2000), 'Discovering Statistics', 1st Edition, Published by SAGE Publications, London

¹⁹ Lindsey, J., K., (1996), 'Parametric Statistical Inference', Published by Oxford Clarendon Press, Oxford.

there is a difference between the groups, whilst if the significance level is above 0.05 then there is a non-significant difference between the groups.

Moreover, Punch (1998) believes that the size of the sample is important in determining the statistical significance. More specifically:

‘The bigger the sample size, the smaller the numerical value of the statistic required in order to reach significance. Conversely, the smaller the sample size, the bigger the numerical value of the statistic required in order to reach significance’²⁰.

In theory, as seen in the last chapter, there are conditions related to the nature of the sample that should be met. However, in practice such conditions very often cannot be met, but statistical techniques can be used to minimize possible problems²¹. For example, statistical corrections are given by SPSS if this criterion has not been met. What is important is that the statistical inference is an extremely important decision making tool, the application of which requires common sense and judgement²². The reason for analysing this statistical tool extensively is because this tool is a vital part of the analysis of the results presented in the next section.

9.3 Section two: The Analysis of the results

There are two types of analysis applied in this study, one-way ANOVA and t-test. The reason for conducting these two different tests will be explained later in the chapter. What is important to know at this stage is, that both are parametric tests. The Parametric statistical tests are considered to be more powerful and accurate than the non-parametric tests²³. The Parametric tests include the t-test the Pearson’s r correlation and the Analysis of Variance (ANOVA). All these types of tests are based on the use of standard

²⁰ Punch, K., F., (1999), ‘Introduction to Social Research’ Quantitative & Qualitative Approaches, pp. 128, Published by SAGE publications, London.

²¹ Field, Andy, (2000), ‘Discovering Statistics’, 1st Edition, Published by SAGE Publications, London.

²² Punch, K., F., (1999), ‘Introduction to Social Research’ Quantitative & Qualitative Approaches, Published by SAGE publications, London.

²³ Roberts, Maxwell, J., and Russo, Riccardo, (1999), ‘Analysis of Variance’, 1st Edition, Routledge Publishing, London.

deviations, means and variances, and make the assumption that only certain types of data with certain properties will be analysed (see chapter ten)²⁴.

On the other hand, the Non-parametric statistical tests are generally less powerful and accurate than the parametric tests, but fewer assumptions about the data are necessary in order to use them²⁵. This means that :

‘The tests are much less likely to be affected by data which are , for example, highly varied from group to group or perhaps very skewed’²⁶.

The Non-parametric tests include the Wilcoxon test, the Mann-Whitney test and the Spearman correlation. Usually, a researcher adopts the Non-parametric tests when there is not enough data or where one’s data do not fulfil the Parametric’s test requirements²⁷. Therefore, since the author of this study has chosen to apply parametric tests before we move any further it is important to ensure that certain conditions of parametric tests are satisfied.

9.3.1 Conditions of parametric tests

There are four conditions for using parametric tests. These are:

- ♦ Homogeneity of variance. This is the most important condition where the sets of data compared have approximately equal variances²⁸. For this study the author has chosen to use the SPSS 11.5 statistical package for the analysis of all the results including the homogeneity of variance test, due to the fact that this statistical programme is widely used in social studies and it is easy to use. Moreover, one should be aware that while conducting different parametric tests, the homogeneity of variance condition could be found either in the Sphericity Mauchale’s table (for

²⁴ Foster, J., J., (1995), ‘Starting SPSS/PS+ and SPSS for Windows, A beginners guide to data analysis), 2nd Edition, Sigma Press, Wilmslow, UK

²⁵ Roberts, Maxwell, J., and Russo, Riccardo, (1999), ‘Analysis of Variance’, 1st Edition, Routledge Publishing, London.

²⁶ Roberts, Maxwell, J., and Russo, Riccardo, (1999), ‘Analysis of Variance’, 1st Edition, pp.8, Routledge Publishing, London.

²⁷ Foster, J., J., (1995), ‘Starting SPSS/PS+ and SPSS for Windows, A beginners guide to data analysis), 2nd Edition, Sigma Press, Wilmslow, UK.

²⁸ Sheskin, D., (2000), ‘Handbook of Parametric and Non-Parametric Statistical Procedures’, 2nd Edition, Published by Chapman and Hall, London.

within-subjects) or the Levene's test table (for between-subjects and t-test)²⁹.

Therefore, the homogeneity of variance will be checked throughout the analysis process, as it may depend on the type of test performed.

- ♦ Interval data. The second condition that has to be satisfied is the one where the collection of data must be on an interval or ratio scale. However, this condition has already been met, since the researcher of this study has decided to treat the Likert scale as an interval scale in order to conduct parametric tests.
- ♦ Independence of observations. The condition of independence of observations requires that each group consists of different people in order to make sure that the behaviour of one participant does not influence the behaviour of another³⁰. Nevertheless, there are no tests that can determine the fulfilment of such a condition. Therefore, a researcher has to use common sense. As far as this study was concerned, the author used common sense and good judgement in order to ensure that this condition was met.
- ♦ Normally distributed data. The fourth condition requires that all data should be normally distributed³¹. Nevertheless, in practice the distribution of a sample derived from the population is examined. If the sample derived from the population is normally distributed, then it is assumed that it represents a normally distributed population³². Usually, the Kolmogorov-Smirnov and Shapiro-Wilk tables are used in order to present the results that can determine whether a sample is normally distributed or not³³. If the results of the test have a significant value (below 0.05) then this indicates that there is a deviation from normality³⁴. Likewise, if the results of the test have a non-significant value (above 0.05) then there is normally

²⁹ Sheskin, D., (2000), 'Handbook of Parametric and Non-Parametric Statistical Procedures', 2nd Edition, Published by Chapman and Hall, London.

³⁰ Field, Andy, (2000), 'Discovering Statistics', 1st Edition, Published by SAGE Publications, London.

³¹ Sheskin, D., (2000), 'Handbook of Parametric and Non-Parametric Statistical Procedures', 2nd Edition, Published by Chapman and Hall, London.

³² Field, Andy, (2000), 'Discovering Statistics', 1st Edition, pp. 38, Published by SAGE Publications, London

³³ Miller, R., G., (1986), 'Beyond ANOVA, Basic of Applied Statistics, Published by Willey Publishing, New York.

³⁴ Field, Andy, (2000), 'Discovering Statistics', 1st Edition, Published by SAGE Publications, London.

distributed data. However, one should be aware that nowadays, there are statistical packages like SPSS that can cope with non-normality in the distributed data and therefore allow the researcher to continue with their analysis. This means that if all the other three conditions are met, the researcher can still conduct parametric tests. However, a researcher should be aware that the lack of normality can influence the reliability of the results.

9.3.2 Choice of ANOVA

Initially, the author of this study planned to conduct a Multivariate Analysis, in order to interpret the results. However, once the questionnaires were collected, the sample was not big enough in order to conduct such a method of analysis. This was due to the fact that there was only one independent variable found (and that was the type of occupation of the respondents), whilst the main condition for performing a Multivariate Analysis, is to have several independent variables. Therefore, the next step was to find a statistical technique that was widely accepted, reliable, and could analyse the results using one independent variable. At the same time, the author was looking for a parametric technique/test that can conduct both within-subject and between-subjects comparisons, and was easy to use. After, consulting two statisticians, the author decided that the best statistical technique that fulfils all the criteria set above is the Analysis of Variance (ANOVA). There are different types of ANOVA available to a researcher depending on the design of the study. Foster (1998) presented two questions, which can be helpful when one makes this choice³⁵:

1. How many independent variables there are?
2. Taking each variable in turn, was it a between-subjects or a within-subjects variable?

Depending on the answers to these questions, the researcher would have to choose among a variety of types including, one-way ANOVA, MANOVA, ANCOVA etc. Although,

³⁵ Foster, J., J., (1998), 'Starting SPSS /PC+ SPSS for Windows: A Beginners Guide', pp. 7, 3rd Edition, Published by Sigma Press, Wilmslow.

there are different types of ANOVA, this study will focus on presenting the one that the author has chosen for this research. The reason for choosing one-way ANOVA is because the results collected have only one independent variable, and because one-way ANOVA is used when this is the case.

9.3.2.1 One-way ANOVA

One-way ANOVA is a parametric test where there is one independent variable with many levels or groups³⁶. One-way Analysis of Variance (ANOVA) is a simple form of analysis of variance that involves the comparison of the dependent variance of interest between different groups, with the variability within each of the groups³⁷. One of the advantages that this parametric test has is its ability to conduct both between-subject and within-subject comparisons³⁸. This is very important to this study because the author wishes to establish if there is a difference between the two.

Moreover, the F-ratio is part of one-way ANOVA and can determine if there is any difference between the variance of scores within the groups and the variance of scores between the groups³⁹. The F-ratio is calculated by dividing the variance between the groups by the variance within groups.

A large F-ratio indicates that there is more variability between the groups than within the groups⁴⁰. Nevertheless, in order to determine what constitutes a large or small F-ratio a researcher would have to consult statistical inference. More specifically:

‘F-ratio is compared within a critical value, stored in a statistical table or computer, to determine the likelihood that it could have come about by chance’⁴¹.

³⁶ Robert, M., and Russo, R., (1999), ‘A student Guide to Analysis of Variance’, Published by Routledge, London.

³⁷ Miller, R., G., (1986), ‘Beyond ANOVA, Basic of Applied Statistics, Published by Willey Publishing, New York.

³⁸ Sheskin, D., (2000), ‘Handbook of Parametric and Non-Parametric Statistical Procedures’, 2nd Edition, Published by Chapman and Hall, London.

³⁹ Robert, M., and Russo, R., (1999), ‘A student Guide to Analysis of Variance’, Published by Routledge, London.

⁴⁰ Punch, K., F., (2000), ‘Developing Effective Research’, Published by SAGE publications, London.

Moreover, if F-ratio is small then this is an indicator that the variance between groups is not bigger than the variance within the groups, concluding that there is no-significant difference between the two, and therefore they are the same⁴².

In addition, it is very important for a researcher to determine:

‘If there is a significant difference in the two sets of results that can be attributed to the influence of the independent variable, or if the difference is due to irrelevant extraneous variables’⁴³.

This is where the application of statistical significance can help in determining whether the results are attributed to the influence of the independent variable or whether to the influence of irrelevant extraneous variables.

9.3.3 Application of one-way ANOVA

The first step prior to conducting a one-way ANOVA was to sort-out the data obtained. As mentioned at the beginning of this chapter, the independent variable is the type of the occupation of the experts. Initially, four groups emerged. These were: Industry, Government, Journalists and Academics (see Appendix 5). However, due to the fact that the group of Journalists had a sample of two respondents, it was decided to merge the group of Journalists with the group of Government experts, on the basis that the Journalists were government correspondent journalists, and thus more closely related to the Government group than any other (see Appendix 10).

The next step was to take the total score of the scale (16 items) and use it as a dependent variable (see Appendix 5). However, the author of this research is aware of the imbalance

⁴¹ Punch, K., F., (1999), ‘Introduction to Social Research’ Quantitative & Qualitative Approaches, pp. 43, Published by SAGE publications, London.

⁴² Robert, M., and Russo, R., (1999), ‘A student Guide to Analysis of Variance’, Published by Routledge, London.

⁴³ Kerr, A., W., Hall, H., K., and Kozuk, A., (2002), ‘Doing Statistics with SPSS’, pp. 43, Published by Sage, London.

there is in the sample size (Industry 25, Government/Journalists 8, Academics 8). Therefore, the second option was to merge groups two and three (Government/Journalists and Academics) and compare it with group one (Industry). This is an alternative to one-way ANOVA in order to establish if non-industry experts react to the scale similarly or differently than the Industry experts. This means that there were two different parametric tests to be performed:

- ♦ The analysis between all three groups-Using one-way ANOVA.
- ♦ The analysis between two groups of experts-Using t-test.

However, prior to conducting the one-way ANOVA, the conditions of the parametric tests had to be met. Initially the homogeneity of variance was examined in order to determine if the variance remains the same in the sets of compared data. As one can see in Appendix 11, the homogeneity of variance has 0.351 significance level, which is higher than 0.05 and this indicates that there is a non-significant difference. Secondly, the condition of using an interval scale and the condition of having independence of observations have been already satisfied. Finally the author tried to see if the data was normally distributed. However, as one can see in Appendix 12, both Kolmogorov-Smirnov and Shapiro-Wilk results indicate that there is a significant value (less than 0.05) and this means that the results of this study deviate from a normal distribution. Nevertheless, due to the fact that the SPSS programme can cope with non-normality in the distribution of data, as long as the results of this study meet the rest of the conditions the author can move on with conducting the analysis.

Once all the conditions required for the parametric test were met, between-subjects one-way ANOVA was conducted using the SPSS 11.5 package. One can see in Appendix 13 the results of one-way ANOVA between-subjects, presented in the ANOVA table. This table contains columns labelled, sum of squares, df for degrees of freedom, Means of squares for F-ratio, and sig. for significance level. Out of them, the only columns that are

critical for interpretation are the first and the last. In the first column the row labelled 'between groups', having a probability value (significance level) associated with it, is the first one that has great importance because it reveals if there is a difference in the way that each group responded to the items (between-subject analysis of variance).

The other rows are used mainly for computational purposes. Of all the information presented in the ANOVA table, interest was mainly focused on the value in the level of significance column. As one can see, the significance level is 0.348, which is above 0.05, indicating that there is a non-significant difference in the way that each group of experts responds to the scale, and therefore all groups respond in the same way to the items (statements).

Moreover, when one looks at the F-ratio value one can see that it is small. As mentioned earlier the F-ratio is determined by the statistical inference. This means that if there is a real significance (below 0.05), then the F-ratio is large and the variance of scores between groups is much greater than the variance of scores within groups. Therefore, since the F-ratio presented in the ANOVA table is small, this lead the researcher to conclude that the variance of scores between the groups is not significantly different from the variance of scores within groups. In terms of this research it indicates that the experts from all the groups broadly agree upon major issues presented in the scale.

The next step was to conduct a within-subjects one-way ANOVA in order to determine whether there is a difference in the way that each respondent responds to each one of the items (statements). More specifically, in this case this test compares each respondent to himself/herself, removing this way any individual differences, which can be viewed as a source of statistical error.

However, prior to moving any further with this analysis, it is necessary to examine if the condition of homogeneity of variance is met. The homogeneity of variance is given in the

Mauchly's test of sphericity table. The results of this table can be seen in Appendix 14. The most important column is the one indicating the significance level. As one can see the significance level is 0.025 which is smaller than 0.05, and this indicates that there is not homogeneity of variance. However, there is a rule widely applied in the social studies that states that when the significance level is below 0.05, then a researcher can apply the Greenhouse Geisser test and if the level of significance in this table is above 0.05, then the condition of homogeneity of variance is satisfied and the researcher can continue conducting the analysis⁴⁴. Therefore, the Greenhouse Geisser formula was applied, presented in appendix 14. As one can see in this table the significance level is 0.648, which is higher than 0.05 and this means that the condition for the homogeneity of variance has been satisfied, allowing the author to move on and conduct within-subjects one-way ANOVA.

Appendix 16 presents the results obtained by conducting a within-subjects analysis and as the first row presents the level of significance as 0.00, which means that overall, there is evidence that the respondents respond differently to the items. This can be seen clearly when one looks closely at the item means for items 12,14,15,16.

So far, we have established that there is a difference in the way that respondents responded to some of the items. However, the researcher thought that it would be very interesting to divide the sample into the three groups as earlier and see if any of those groups treated the individual items differently. For example, was there an interaction between the type of respondent and the question asked? This is a mixed design ANOVA, where one factor is between-subjects and the other factor is within-subjects, and are both compared in order to see if there is any interaction between the two. As one can see, Appendix 17 firstly presents the results of the test of homogeneity, where again the Greenhouse Geisser formula

⁴⁴ Coakes, S., J., and Steed, L., G., (1999), 'SPSS: Analysis Without Anguish', 4th Edition, Published by Wiley & Sons, London.

has been applied and secondly the table with the results from conducting one-way mixed ANOVA. In this table, the last column in the second row, presents the level of significance. In this case the level of significance presented in the second row is 0.354, which is more than 0.05 and that, indicates that there is no difference between the three groups. This means that all three groups respond in the same way.

Concluding, one can say that both within-subjects and between-subjects one-way ANOVA have revealed that regardless of the approach, the respondents respond to the scale in the same way. This is viewed as very positive for this research because it indicates that there is coherence in the way that the experts respond to each item. Another advantage is the fact that when each respondent was compared to himself/herself, the results revealed that each responds differently to the items. This kind of result indicates that there is no bias in the way that an individual participant responds to the scale.

9.3.4 t-tests

t-test is a parametric test that is used in order to test whether the difference between the mean of two sets of scores are statistically significant or not⁴⁵. The SPSS package provides a variety of different types of t-tests available to a researcher. However, the most important are:

- ♦ The independent samples t-test.
- ♦ Paired samples t-test.

The independent sample t-test is a parametric test that is used only when one wants to compare the mean scores of two different groups of people⁴⁶. On the contrary, the paired

⁴⁵ Roberts, M., and Russo, R., (1999), 'A Student's Guide to Analysis of Variance', Published by Routledge, London.

⁴⁶ Robert, M., and Russo, R., (1999), 'A student Guide to Analysis of Variance', Published by Routledge, London.

samples t-test, is a different parametric test that is used only when one wishes to compare the means scores of the same group of people on two different occasions⁴⁷.

The most important feature of the t-test is that it is very good statistical test if one wishes to measure two sets of data or groups. However, if one wishes to use more than two sets of data or groups, in order to conduct multiple t-test, they will end up with results that do not reflect reality and are not statistically accurate⁴⁸. For example, let us assume that one wants to measure the scores derived by the three groups in this research, in order to see how these groups respond to the items. It will not be valid if the researcher does one t-test to compare group one with two, another t-test to compare group two with group three, and another t-test in order to compare group one with group three. The reason is because this multiple t-testing distorts the probability level due to the fact that when the researcher believes that he/she is using the 5% level (0.05 significance level of probability), he/she is not⁴⁹. In this case the researcher should use a parametric test that is designed to cope with this kind of multiple comparisons, such as ANOVA.

9.3.5 Application of t-test

In this study, the independent sample t-test was used because it was desired to compare the means of scores of two different groups. These groups are, the industry experts and the non-industry experts (see Appendix 18). Like in one-way ANOVA, the first step to take is to examine if the conditions for the parametric tests are satisfied.

It has already been established that the conditions of the interval data and the independence of observations have been met. Likewise, normality is not important because the SPSS

⁴⁷ Loewenthal, K., M., (2001), 'An Introduction to Psychological Tests and Scales', 2nd Edition, Published by Taylor and Francis Group, London.

⁴⁸ Kerr, A., W., Hall, H., K., and Kozuk, A., (2002), 'Doing Statistics with SPSS', pp. 43, Published by Sage, London.

⁴⁹ Sheskin, D., (2000), 'Handbook of Parametric and Non-Parametric Statistical Procedures', 2nd Edition, Published by Chapman and Hall, London.

package can cope with non-normality. Therefore, the most important condition to be satisfied is the homogeneity of variance.

Appendix 19 presents the results of the homogeneity of variance, which can be found in the Levene's test for equality of variances table. As one can see in the last column the level of significance is over 0.05, which indicates that there is a non-significant difference and that the variance is the same. However, item 9 has a significance level which is below 0.05. This means that the results of this item should be corrected, by using the formula given by SPSS (equal variances not assumed).

However, one might wonder what this test can reveal. An independent sample t-test will reveal whether there is a statistically significant difference in the mean of scores for the two groups. This means that this test will reveal if there is any difference in the way that these two groups respond to the scale. After conducting this t-test, the first table that will appear is the group statistics (Appendix 20). In this table SPSS presents the mean and the standard deviation for each of the two groups for each item. It also provides information about the people in each group (N). Initially the researcher has to make sure that these values are correct. Once the values have been checked the researcher can move on. As one can see the number of respondents for t-test is 41 and not 43 as in a one-way ANOVA. This is because the t-test excludes any cases (people) that have missing data while one-way ANOVA can cope with missing data. In this case, two respondents had missing data, hence the number of participants is 41.

However, in order to find out if there is a difference between the two groups of industry and non-industry experts, the t-test for Equality of Means table had to be checked, presented in Appendix 21, (Column 4 labelled sig 2-tailed). Two values are given. One for equal variance and the other for unequal variance. A researcher can choose whichever the Levene's test result indicates. For this research the Levene's test indicates that the values

for equal variance assumed, should be considered (see Appendix 19), except for item 9 where the correction factor is used. As one can see, the results of the 2-tailed significance indicate that there is non-significant difference between the two groups, due to the fact that all values are above 0.05. More specifically, based on these results there is no difference in the way that the two groups of industry and non-industry experts respond to the scale.

Concluding, one can say that the results derived from both one-way ANOVA and t-test, have revealed that there is no difference in the way that the experts respond to the statements of the scale. In addition, all experts respond to the scale in the same way, which means that there is an agreement amongst them. However, the next step will be to analyse each statement in order to see in which way specifically the experts agree to each one of the statements because this will determine the outcome of the policies for the Baltic Sea region.

9.4 Section three: Descriptive statistics analysis

9.4.1 Introduction

The final section of this chapter provides a detailed analysis for each one of the statements. Moreover, this section is divided in two parts. The first part includes the theory of descriptive statistics, whilst part two presents the descriptive statistics for each statement and anecdotal data in the form of comments derived from the experts in the region either in the form of questionnaires or informal interviews with experts while visiting Latvia, Lithuania and Russia between 2000 and 2001. The author aims in this way to cover extensively every aspect with respect to the findings of this research.

9.4.2 Descriptive Statistics Results

Before moving into the analysis of the descriptive statistics results it is important to clarify some issues related to the frequency distribution histograms. Each frequency distribution histogram includes, on the vertical axis, the number of respondents and on the horizontal axis, the level of agreement/disagreement. Note that number 1 on the histogram's horizontal axis, stands for strongly agree, 2 for agree, 3 for neutral, 4 for disagree, and 5 for strongly disagree. In addition, on the left of each histogram one can see the standard deviation (SD), mean, and total number of participants (N). Out of these the most important indicator for the author will be the mean for each statement (whether the mean is closer to agree or disagree) and the number of participants who responded to each level of the scale (level of agreement/disagreement). This is due to the fact that the one-way ANOVA and t-test results have revealed that the experts respond to the items of the scale (statements) in the same way and therefore, it is very important to see in which way specifically the experts agree to each one of the statements. It should be emphasised that in this final section of the analysis, all 19 items will be analysed and not only the 16 items that there were found statistically inter-correlated and thus used in previous statistical analysis. This is due to the fact that the 3 originally excluded items remain of significance to this research.

Table 9.1**Descriptive Statistics for all the Statements**

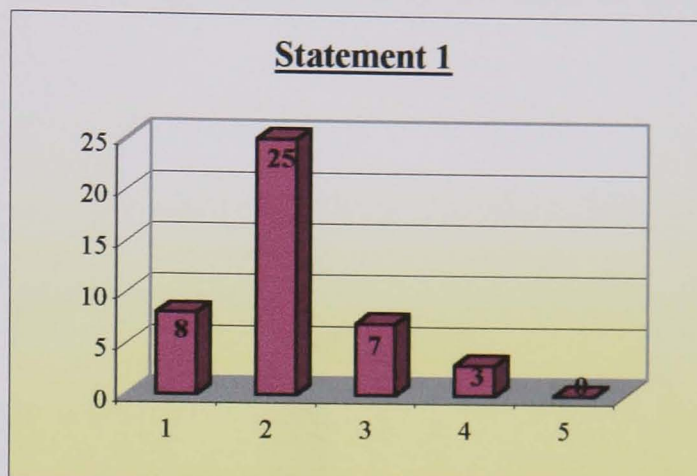
Statements	Mean	Standard Deviation	Number of experts
Statement 1	2.1	0.79	43
Statement 2	2.3	1.11	43
Statement 3	2.2	0.98	43
Statement 4	2.5	1.12	43
Statement 5	2.3	1.08	43
Statement 6	2.0	0.87	43
Statement 7	2.4	0.76	43
Statement 8	2.2	0.84	43
Statement 9	2.7	0.87	43
Statement 10	2.5	0.80	43
Statement 11	2.2	0.80	43
Statement 12	2.3	0.75	43
Statement 13	2.0	0.69	43
Statement 14	3.2	0.93	43
Statement 15	2.5	0.77	43
Statement 16	2.1	0.93	43
Statement 17	2.0	0.89	43
Statement 18	1.9	0.93	43
Statement 19	1.8	0.85	43

Container flows

Major container flows arriving from the United States and Japan to Korean ports then pass through Chinese railways to Western Europe via Asia and Ukraine.

Statement 1: Russian companies can reroute some of these flows to Vostochny port and then via the TSR to Baltic States ports heading for Western Europe.

As one can see, the mean for the first statement indicates that the majority of experts agreed with the potential of the Baltic States ports to become a gateway for containers moving via the



TSR to Western Europe. Also, the standard deviation is rather small and this shows that there is not a large variability in the way that the experts have responded. This can be seen clearly in the frequency distribution histogram, where none of the participants have chosen the strongly disagree option.

Comments

The experts who agreed with this statement expressed their confidence about the future of the Trans Siberian Railway container market and emphasised that the Baltic States' ports will increase their share in the TSR market. The main reason for this notion is that the expected growth of containers globally is anticipated to influence positively both Russia and the Baltic States ports. Other reasons included the modern port facilities in the Baltic States ports as well as the same rail gauge connecting Russia to the Baltic States.

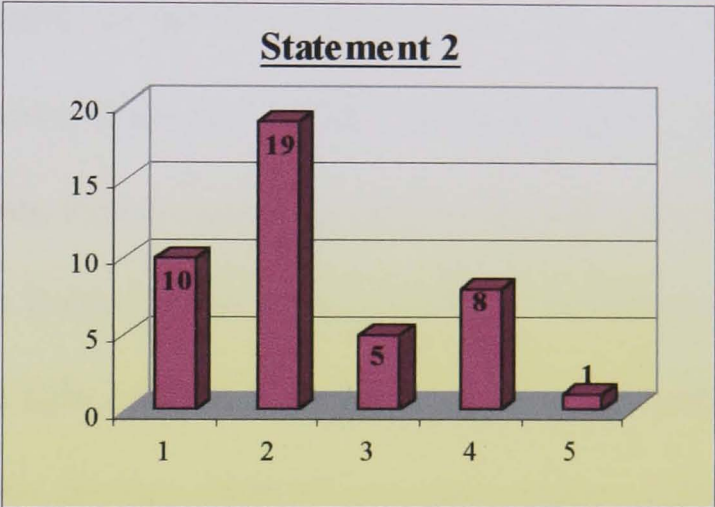
The number of experts who expressed a neutral position on the statement did not make any comments, whereas the experts that disagreed with the statement indicated that even if the TSR container market increases, the Baltic States ports would not increase their share in

this market due to political reasons. However, no further analysis concerning political issues was made.

There are container flows heading to Central European destinations through the rail junction at Brest on the Belarus-Poland border.

Statement 2: **Baltic State's sea and railway operators would be able to compete if they offer lower prices.**

In the second statement the mean indicates that most of the participants tend to agree with the statement. However, the standard deviation is bigger than in the previous statement and from that one can conclude that



there is more variability in the way that the experts have responded to this statement. Indeed, when one looks at the histogram, one can see that there is relatively even distribution of the sample to all available options.

In addition, as the histogram chart shows, the sample was divided. Ten experts strongly agreed that the Baltic States' sea and railway operators could compete with neighbour countries (Belarus/Poland) if they offer lower prices. On the contrary, only one expert strongly disagreed with this issue. Nevertheless, the majority of experts agreed with the statement and only five experts had a neutral opinion. Having a low number of experts that have a neutral opinion for this statement is very positive for the author, because it indicates that the experts have a firm opinion for or against the statement, thus helping the author to

reach an opinion about the potential of forming policies related to this statement. Last but not least, there were eight participants who disagreed with this item.

Comments

The experts who agreed with the statement stated that they are convinced of the potential of the Baltic States Sea and railway operators to compete with neighbour countries if they offer lower prices. Further comments included the fact that the Baltic States have the same railway gauge as Russia, and that lower prices can make a difference to customers.

However, the experts who disagreed with the statement, indicated that a reduction in rail tariffs would not bring more container traffic to the Baltic States ports, because what is important is the whole logistical chain. Hence, if sea and railway operators co-operate then the Baltic States could compete. In addition, experts noted that at the moment only 20% of the containers are carried by railway in the Baltic States, whereas, 80% is carried by trucks, because it is cheaper. Nevertheless, in the light of the EU policies promoting railways and efforts of the Baltic States' governments to develop their rail systems, experts expect that the railways in the future could gain their competitive edge over road transportation.

Moreover, others indicated that Russia charges higher tariffs for containers moving to the Baltic States than other countries like Germany. Hence, they continued saying that if Russia would charge for example, the same tariffs between Vostochny-Klaipeda/Riga/Tallinn as it charges between Vostochny-Brest, then the Baltic States could compete. However, at the same time they commented that although Russia charges higher tariffs to the Baltic States, the quality that their ports offer is rather poor, and customers tend to choose quality over cost.

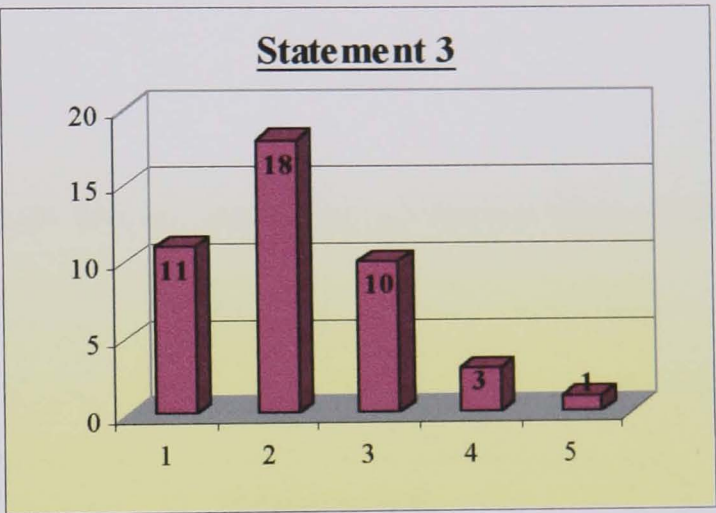
Finnish Market and Baltic States Market for TSR Containers

Sources suggest that most transit container flows currently use the TSR system to deliver to warehouses in Finland and not St. Petersburg, for security reasons.

Statement 3: The Baltic States ports are efficient, secure, cost effective, and ice free.

Therefore, they can compete with Finnish ports and re-route a high share of these container flows to the Baltic ports.

As the frequency distribution chart indicates, the sample is divided but most of it is concentrated towards the agree options. As one can see, eleven experts have strongly agreed with the statement, whereas, only one has strongly



disagreed. This shows that a considerable number of experts strongly believe that the Baltic States ports have what it takes to compete with the Finnish ports. In addition, eighteen experts agreed with the competitive edge of the Baltic States ports over the Finnish ports. Quite interestingly, there were ten participants who have taken a neutral position as far as the statement is concerned. This leads the author to assume that those experts for their own reasons have decided to stay neutral over this issue. One may consider that this might be a sign of political interference (based on the past of the region) or even competition.

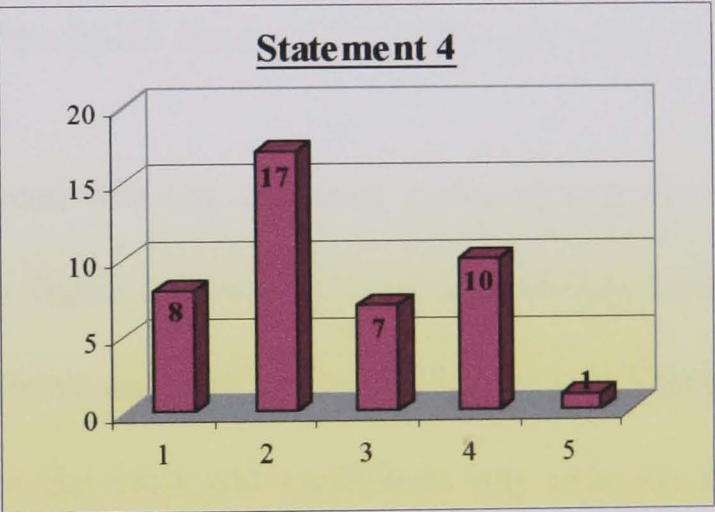
Finally, only four experts expressed a negative opinion over this statement.

Comments

Those experts who agree with the statement emphasised that the Baltic States ports have taken in the last decade big steps forward as far as port infrastructure and port facilities are concerned. Moreover, these ports have restored their past reputation for low standards of safety and have the advantage of being ice-free. On the contrary, experts who had a neutral position did not comment on the statement. Also some experts noted that the Finnish Gulf it is not safe for navigation. In addition, the experts who disagreed with this statement indicated that safety is not as important as the simple procedures of Finnish customs, and this is a significant factor.

Statement 4: Baltic States can dominate as transit ports for container flows moving via TSR to Western Europe.

In this statement the mean is an indicator that indicates that overall the experts tend to agree with the potential of the Baltic States ports. Moreover, the standard deviation, leads one to conclude that the sample was



distributed among the five available options, but the variance was not large.

Likewise the frequency distribution histogram indicates that the sample was split. Eight experts strongly disagreed with the statement, whilst only one expert strongly disagreed with the possibility of the Baltic States ports to dominate as transit ports for TSR containers. Furthermore, seventeen experts agreed with the statement, while seven preferred to stay neutral, and ten disagreed. It is interesting to see that this is the first time where more than eight participants disagreed with a statement. The ten experts disagreeing

with this statement is a number that was notable and therefore, more attention has been placed upon their comments.

Comments

As one can see from the frequency distribution chart, twenty-five experts agreed with the potential of the Baltic States to dominate in the TSR market. These experts pointed out that the Baltic States' ports have the infrastructure, the efficiency and the capability to respond to the needs of the TSR container market.

However, the experts who took a neutral position emphasised that the potential of the Baltic States to dominate in this market is subject to efficient co-operation of railways, operators and customs. Also, others pointed out that the issue mentioned in this statement is not an economic matter but a political matter, implying that Russia would not like to offer the majority of the TSR container market to the Baltic States due to the fact that Russia wishes to retain some control over the Baltic States and not depend on them.

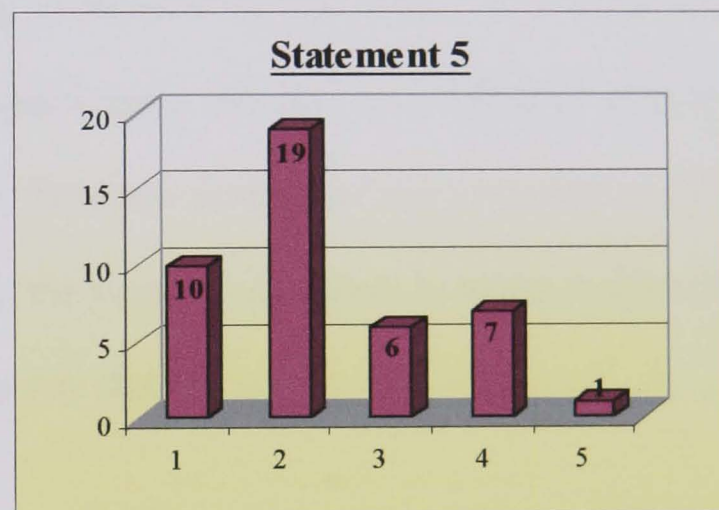
Last but not least, the experts who disagreed with the statement indicated that the Finnish ports are much more developed than the Baltic States ports and they already have free-economic zones, balanced import-export flows and high quality skilled labour. This kind of notion makes one wonder that if that is the case and customers rely only on already established ports, then this indicates that new ports would find limited business.

Japanese Market

The world cargo flow is regrouping in a more focused search for more effective routes, including Eurasian ones. The exchange of goods between Europe and Asia makes up half the world's cargo. Almost all Euro-Asian routes pass within the transportation networks of the CIS countries and primarily Russia. One of these corridors is the Europe-Russian railroad-Japan.

Statement 5: The construction of a Europe-Russia-Japan corridor would be of strategic importance because it will secure a maximum use of the TSR and the Baltic States seaports.

Based on the mean, which is 2.3 one can understand that the experts have expressed a positive attitude towards the issue of Euro-Asian corridor and its benefits to the TSR. Moreover, the standard deviation shows that there is a small variation in the distribution of the sample.



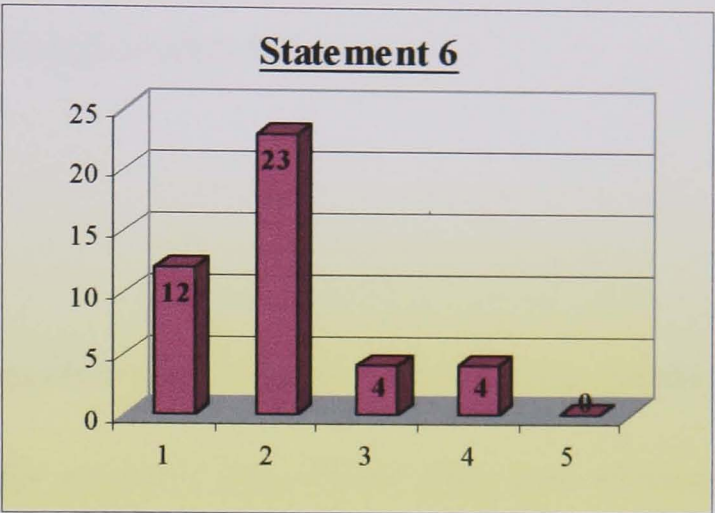
The frequency distribution histogram indicates clearly that the majority of experts have agreed with the statement. More specifically, ten experts have strongly agreed that the construction of the Euro-Asian corridor would increase the use of the TSR and the Baltic States ports, whilst, only one expert strongly disagreed with this possibility. Nineteen participants agreed with the statements whereas six experts took a neutral position and seven disagreed with the potential of increasing the use of TSR and the Baltic States ports.

Comments

The participants did not comment any further.

Statement 6: Japanese companies will continue moving containers via the deep-sea route to Western and Central Europe, if the TSR rates are not competitive enough.

This is the first of the three statements that were not used in the previous statistical analysis. This statement although is not statistically inter-correlated with the other items, is important to this research, because



Japan has been a major customer moving containers via the TSR. The mean for this statement indicates that the majority of experts agree that the Trans Siberian Railway has to take some measures in order to attract Japanese companies that currently move their cargo via the deep sea route. In addition, the standard deviation is rather small and this shows that there was a small variance in the way that the sample was distributed.

Moreover, the frequency distribution chart shows that the sample was mainly divided between the strongly agree and agree options. More specifically, twelve experts strongly believed that unless the TSR reduces tariffs Japanese companies will continue to move their containers via the deep-sea route, whereas, there was no expert to strongly disagree with this statement. The seriousness of this issue is clear. This means that there are no other ways to attract Japanese companies unless the TSR takes such measures. In addition, twenty-three experts agreed with the statement, and the remaining sample of eight participants was split in half between those who have a neutral opinion over the subject and those who disagree with it.

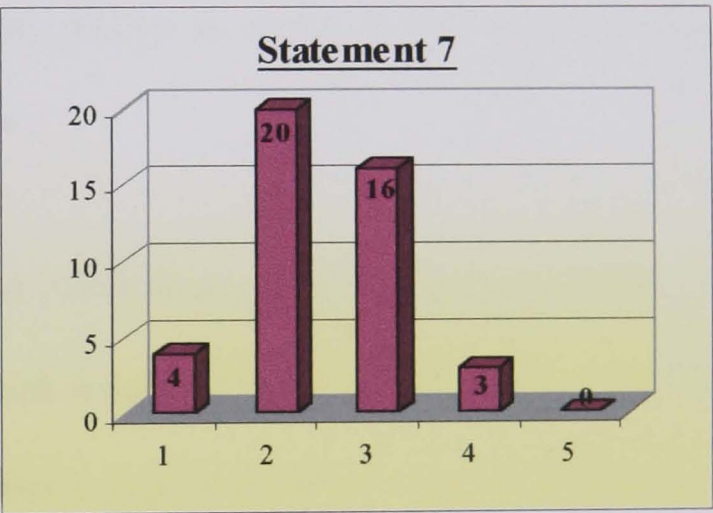
Comments

Those experts who agreed with this statement clarified that if the TSR reduces the tariffs it would be able to redirect containers but because the TSR cannot handle more than 500,000 TEU, the Japanese companies would continue to use the deep-sea route as well. In reality the TSR and the deep-sea route only compete indirectly because vessels would always be able to carry more containers than railways. Moreover, they stated that as the volumes of containers grow every year, there is a big enough market for everyone.

No further comments were made.

Statement 7: **Japan is rather apprehensive with regard to resuming shipment of containers to Europe via TSR due to the negative experience they had 12 years ago due to the inefficiency of the TSR.**

This is the second statement that was eliminated from other statistical analysis. As one can see, the mean indicates that the experts expressed a positive opinion on this statement. In addition, the standard deviation is small and this is a clear indicator that the sample was not distributed evenly.



Moreover, the frequency distribution histogram shows that most of the sample was divided between the ‘agree’ and the ‘neutral’ options. There were only four experts who strongly believed that Japan is rather apprehensive of using the TSR, whilst, there was no expert who strongly disagreed with this statement. However, it is very interesting to see that twenty experts agreed with this issue and sixteen were neutral. Those who agreed with the Japanese apprehensive position towards the TSR, tended to reflect upon the TSR’s

insufficient past in the present and for the future. Nevertheless, what is interesting in this chart is that a considerably large number of experts preferred not to express any opinion on this issue. This leads one to assume that experts were not sure of the Japanese opinion towards the TSR, even though in the last few years the TSR has taken some big steps forward and attracted Japanese cargo. Furthermore, only three experts have disagreed with the statement, mainly because Japanese companies have partially resumed container shipments to Western Europe via the TSR.

Comments

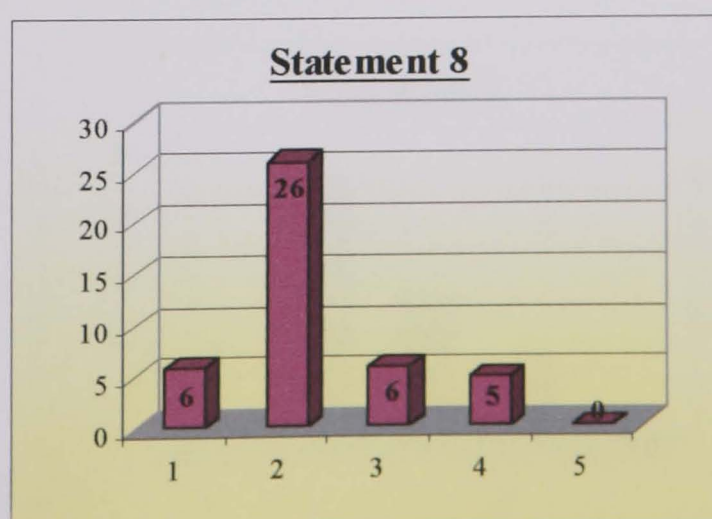
There were no further comments as far as this issue was concerned.

Korean Market

South and North Korea have agreed to re-establish a rail link that has been broken for half century. Moreover, the two sides pledge to make all the necessary efforts to unite the trans-Korean railway to TSR.

Statement 8: The reconstruction of the rail link across South and North Korea will lead to a connection with the TSR, which would allow Russia to become a transport bridge between South and North Korea's export-driven economy with the Baltic States and Western Europe.

The descriptive statistics for this statement indicate that the majority of respondents have agreed with the notion that the TSR can become a transport bridge connecting the Far East with the Baltic States and



Western Europe. The standard deviation is not high and as one can see in the frequency distribution histogram, an impressive twenty-six experts from the sample have agreed with this item. Six experts strongly agreed with this potential, whereas, no expert strongly disagreed. In addition, six participants had a neutral opinion towards the subject and only five experts disagreed with the potential that the future rail connection between the two Koreas and TSR can hold for the Baltic States.

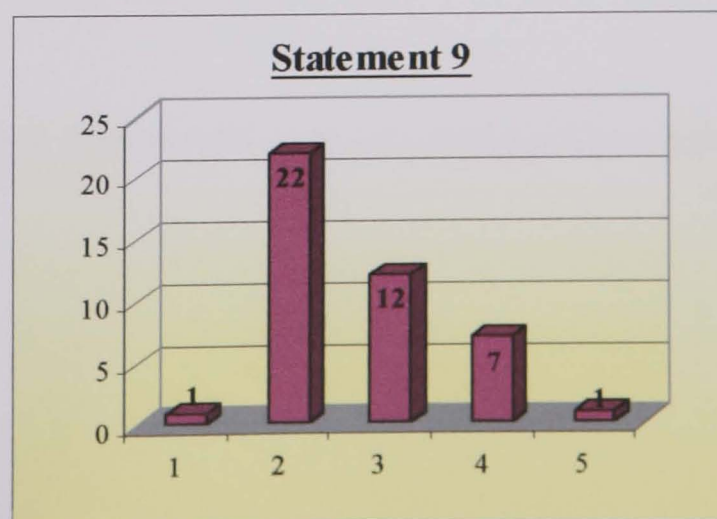
Comments

The experts who agreed with the statement indicated that the more the TSR market grows as a whole the more the Baltic States ports will get a significant part of the TSR market. Hence, when the rail connection is finished it is expected to increase the volumes of containers in transit via the TSR, and consequently the volumes of TSR containers via the Baltic States ports. In addition, it was reported that the Baltic States currently are negotiating with companies and transport government bodies in the Far East for co-operation, and the movement of containers from the Far East and more specifically, China, Japan and Korea, via the Baltic States ports.

The experts who disagreed with the statement did not make any comments.

Statement 9: The reconstruction of rail link across South and North Korea with the TSR would dramatically reduce the cost and time needed for moving containers from Korean peninsula to Russia and Western Europe.

In this item the mean is rather close to the middle point, indicating an overall agreement. Even though, the mean is close to the middle point, the standard deviation is rather small and that is a



clear indicator that the sample was not spread evenly over the five available options.

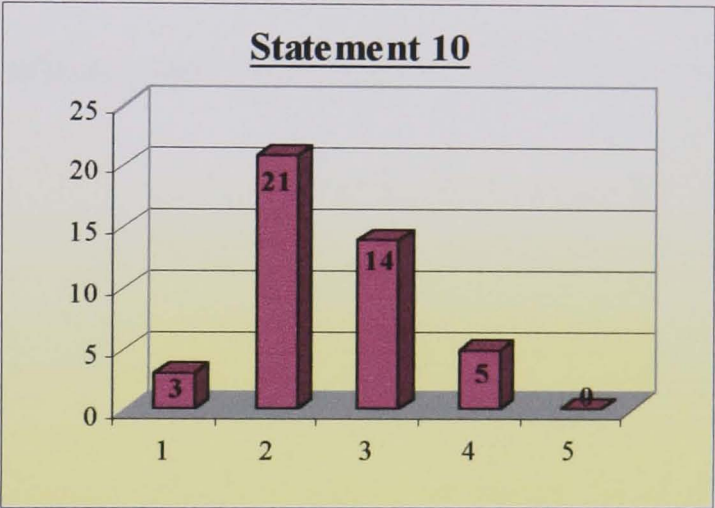
Comments

The experts noted that this statement is closely related to the previous statement because if the rail connection between the two Koreas and TSR will reduce time and cost that will subsequently influence the Baltic States ports positively, because they will become more appealing to customers.

Statement 10: **Rival competition from China could lead to re-routing the Korean container flows through their borders to Western Europe.**

Comments

However, the experts who agreed with this statement emphasised that China could re-route more containers and compete with Russia for Korean containers, if its ports had the capacity



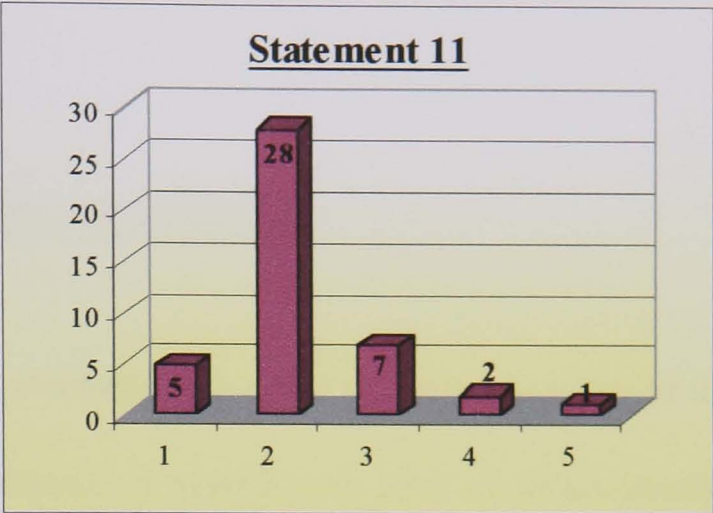
to do so. More specifically, they noted that there was an agreement between China, USA and Russia, for the re-routing of USA containers that currently arrive at Chinese ports, to Russian Far East ports, because the Chinese ports are threatened with overcapacity.

Chinese Market

In 2000 a new railway line (Primorye line) was established, connecting key segments of Russia and China.

Statement 11: The new line between Russia and China can become a bridge for Russian companies to connect China with European markets via the TSR.

Descriptive statistics indicate that once again the experts have a positive opinion over the potential of Russia to connect China to European markets via the TSR. As the frequency distribution histogram presents, twenty-eight



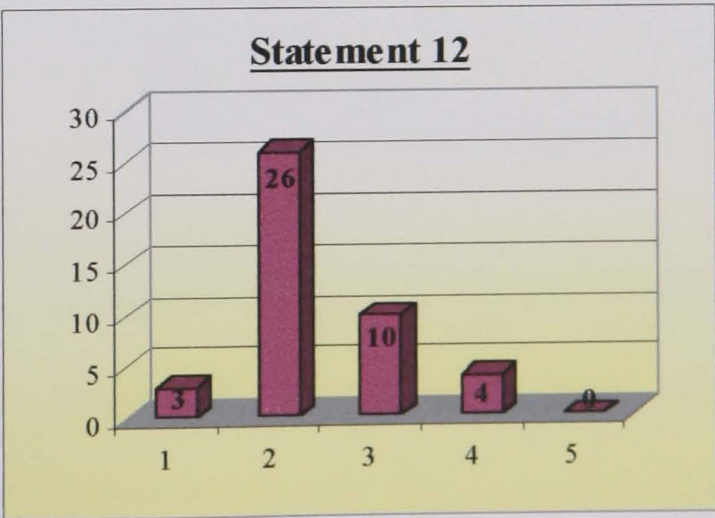
participants agreed with this statement whilst the remaining sample was scattered between the other options. What is interesting to note, is that even though the remaining fifteen responses were split among the other options, only three experts expressed a negative opinion towards this statement.

Comments

No further comments were given.

Statement 12: The trade between the two countries will rise because of this new line.

In this case 67.4% of the experts have agreed with the statement, and as both the standard deviation and the chart indicate, the majority of experts are located in the ‘agree’ option. More specifically, twenty-six experts have



agreed and another three have strongly agreed with the positive effect that the new line may have upon the Russian and Chinese trade. Moreover, ten experts avoid taking any position and the remaining four disagreed with this statement.

Comments

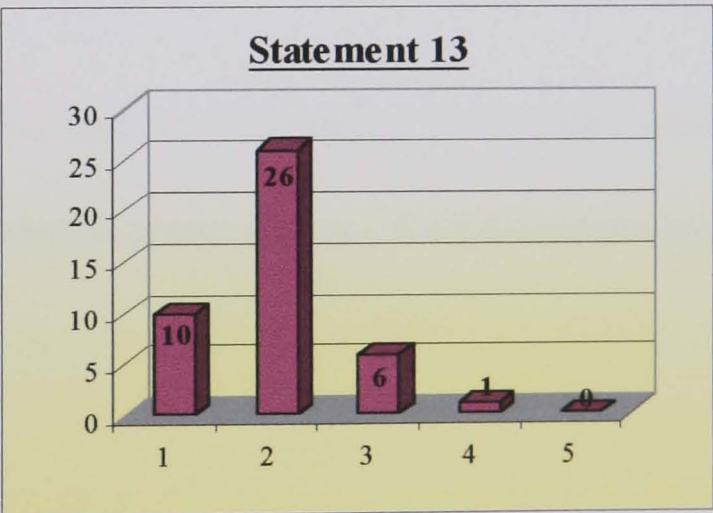
Those experts who agreed with the statement emphasized that trade will rise between the two countries because both Russia and China see mutual benefit in increasing trade.

Kazakhstan Market

For Kazakhstan, Russia and the Baltic countries is one of the most important market priorities for transport system development. A significant part of trans-continental routes crosses Russia.

Statement 13: **The unification of the Russian and Kazakhstan transport routes may provide a base for several projects, profitable for both countries as well as for the Baltic States, which would be able to use Russian and Kazakhstan territory for transit.**

Based on the descriptive statistics most of the sample has agreed with the statement. In addition, the frequency distribution histogram provides more information about the way that the sample has been distributed between



the five available options. As one can see, ten experts strongly agreed with the statement and impressively twenty-six participants agreed with the positive impact that the Kazakhstan market can have upon the Baltic States and Russia. Also, it is very interesting to note that only one expert disagreed with this notion and none strongly disagreed. This could be justified better when one reads the comments derived by the experts.

Comments

The experts who agreed with this statement indicated that technically and geographically the two rail systems between Russia and Kazakhstan are united and that further agreements for the movement of containers coming from Kazakhstan via the TSR to Baltic States ports is on the way. Moreover, other experts indicated that other Asian countries like Uzbekistan, Turkmenistan, Tajikistan and possibly Afghanistan, are preparing a transit agreement for the transit of their container volumes via the Baltic States ports.

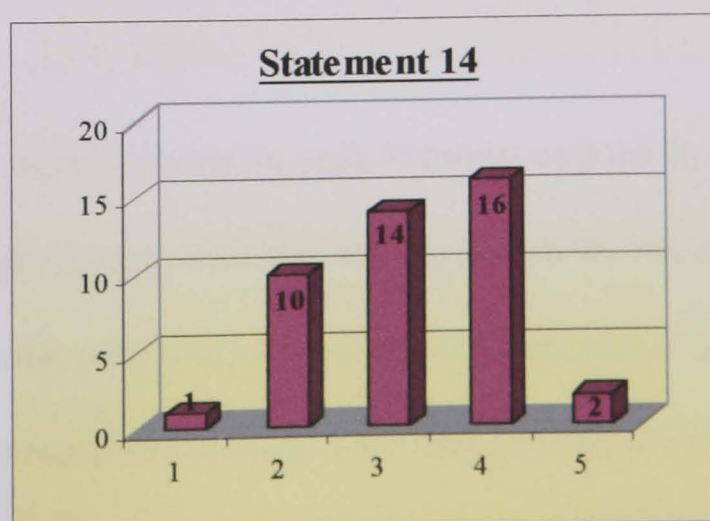
Furthermore, the expert who disagreed with the statement indicated that there are projects that can benefit both Russia and the Baltic States but at the moment because of Russian rail tariffs for the Baltic States, the majority of the projects are delayed.

USA Market

It was published that in 2000 the Trans Siberian Railway and Alaska signed an agreement for the movement of cargo from Alaska to Europe, via the TSR.

Statement 14: Projects providing for a link-up of Russia's TSR with railways in North America will play a prominent role in promoting the East European economy of the 21st century.

As one can see, the mean for this statement is in the middle point with a marginal overall disagreement towards this issue. However, the histogram presents a better indication about the division of the sample. The chart for



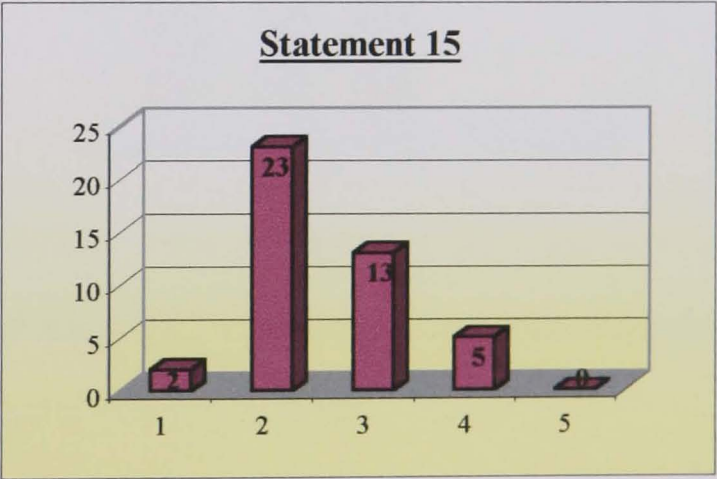
this statement shows that most of the sample has been split between options 2, 3 and 4. More specifically, ten experts have agreed with the notion that the connection of the TSR with Alaska would have an impact upon the East European economy. This is a relatively low number of positive agreements when compared with previous statements. Nevertheless, this is the first statement so far where sixteen experts have disagreed with an issue. This is an indicator of how strongly the experts feel towards such the concept presented in this statement. Moreover, there were fourteen experts who expressed a neutral opinion on the subject.

Comments

Most experts who disagreed with this statement indicated that they do not expect such a project ever to take place. Moreover, others indicated that even if such a project was established, it would have not influenced the growth of the Baltic States ports.

Statement 15: **The agreement between TSR and Alaska shows that the potential for transportation of containers in the former USSR region is huge.**

The mean for this statement indicates that overall, the experts expressed a positive attitude towards the potential for transportation of containers in the former USSR region. In addition, as both standard deviation and the



frequency distribution chart show, the sample was mainly split between options 2, 3 and 4. There were only two experts who strongly agreed with this statement, whilst, there was no participant who strongly disagreed with the potential of the Eastern European region. The majority of the sample was divided between those experts who agreed with the statement (23) and those who preferred to stay neutral on this issue. Finally, five participants thought

that the agreement with Alaska does not indicate anything about the future of the former USSR region.

Comments

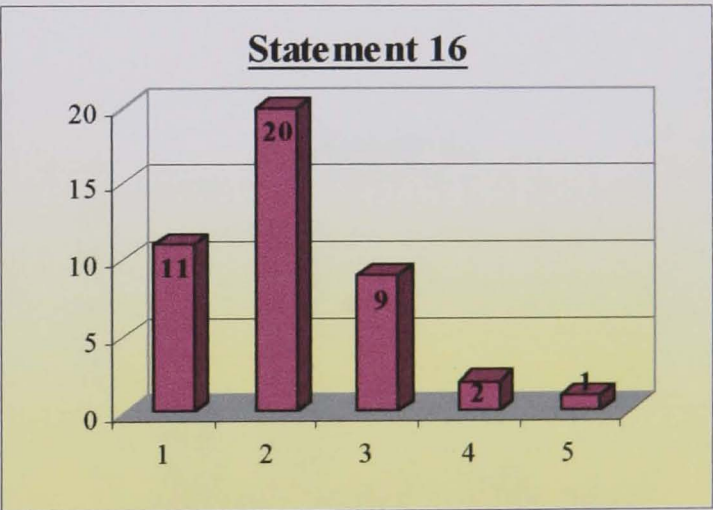
No comments were given for this statement.

Reconstruction of TSR

The Russian Ministry of Railways decided in 2000 that there is the need to reconstruct the technical foundations of TSR and modernize its technology.

Statement 16: Reconstruction of TSR will improve the state of efficiency of the TSR and reduce freight charges.

This is the third and final statement that was originally excluded from the statistical analyses conducted at the earlier stage. The descriptive statistics for this statement show that the majority of the experts agree with the



positive effects that the reconstruction of the TSR would have upon its efficiency and tariffs.

The chart is a further indicator which reveals that most of the sample was split between the first three options. Eleven participants strongly agreed on the impact that the reconstruction of the TSR would have on its overall performance, whilst, there was only one respondent who strongly disagreed with such a notion. Moreover, twenty experts agreed with this

item, whereas, nine experts had a neutral opinion on the subject. Last but not least, there were two respondents who disagreed with the statement.

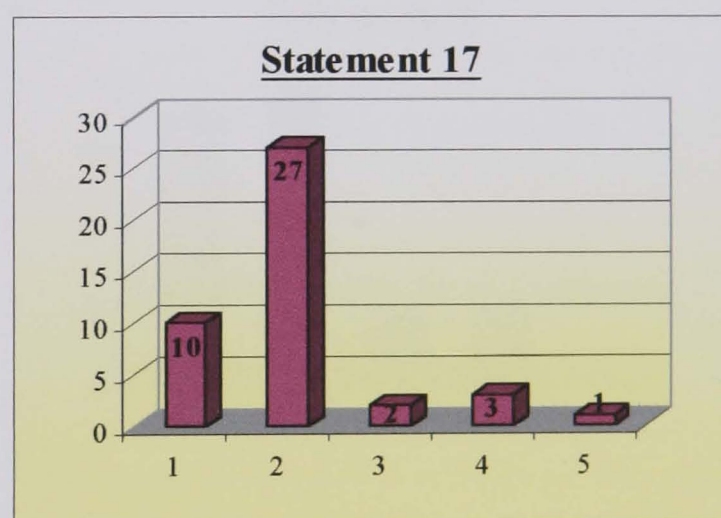
Comments

There were very few comments about this statement. Few of the experts who agreed with this statement, indicated that these plans for the reconstruction of the TSR would improve its effectiveness and give the TSR a more competitive edge.

However, one of the participants who disagreed with this issue expressed his doubts about whether the Russian Ministry of Railways has the money to invest in the TSR.

Statement 17:The modernization of the TSR could lead to the creation of an international rail network with the Baltic States, creating a new market that can attract more cargo moving from Far East to Western Europe.

In this case the descriptive statistics clearly indicate that experts have agreed with this statement. More specifically, the chart shows that the majority of respondents believe that co-operation between Russia and the



Baltic States can create a new transport rail corridor and increase the volume of containers moving from the Far East to Western Europe and vice versa. In total thirty-seven experts agreed with this statement, whereas, the remaining six respondents were divided between the three remaining options.

Comments

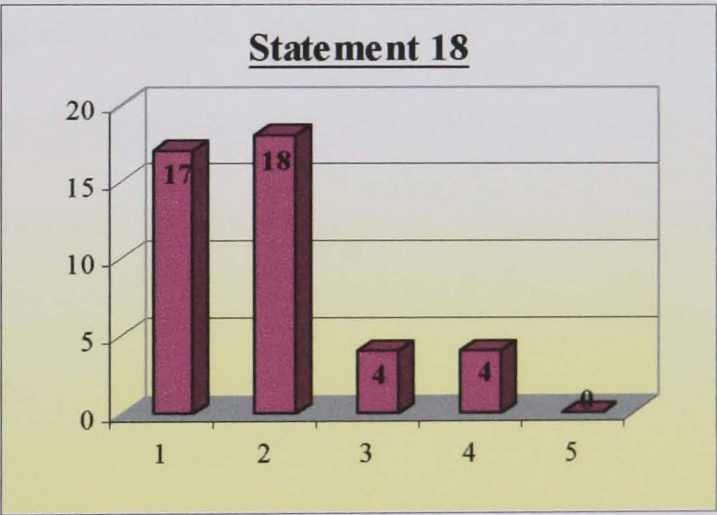
The experts who disagreed with this statement indicated that such a proposal is not possible because the reasons behind the lack of co-operation between the Baltic States and Russia are economic and political and any policies would not sort these problems out.

Unreliability

In the recent past a series of strikes cost a lot of money and time to TSR’s consumers and operating companies.

Statement 18: **The Russian Ministry of Railways would have to adopt policies in order to avoid such incidences happening again because it can result in losing clients as in the past.**

This was one of the few statements where the experts expressed such a high level of agreement. In addition, it is the first statement so far, where the experts who strongly agreed were a considerably high number. More



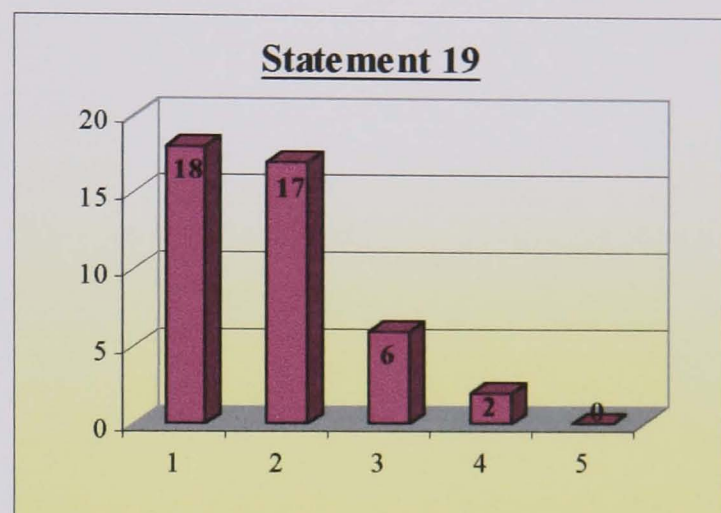
specifically, as one can see in the chart, seventeen experts strongly agreed with the notion that the Russian Ministry of Railways needs to adopt new policies that can secure the efficiency and reliability of the TSR and can establish a good reputation in the transport market. Likewise, eighteen participants agreed with the same notion, and only four experts thought otherwise about the potential of the TSR.

Comments

No further comments were given for this statement.

Statement 19: The Russian Ministry of Railways would have to focus on re-establishing the old glory of the TSR in order to attract more investors and increase container flows.

The descriptive statistics show that many of the experts have strongly agreed with this final statement. As one can see in the frequency distribution histogram, the majority of experts have a very positive attitude



towards the statement. More specifically, eighteen experts strongly believe that the Russian Ministry of Railways needs to focus on re-creating the picture of the TSR in the eyes of customers. Likewise, another seventeen participants agreed with the same notion, whilst six respondents expressed a neutral opinion and the remaining two experts disagreed with this issue.

Comments

The experts who agreed with this statement stated that Russia could regain the trust of the customers and make the TSR the most attractive route for containers moving from the Pacific region and the Far East to Western Europe. In addition, there were those experts who indicated that Russia has ineffectively exploited the Baikal-Amur railway, which could take a large amount of cargo as well.

Summarizing all the information provided in this chapter, one can draw some conclusions as far as the results are concerned based on the statistical analyses and the comments derived from the experts. These conclusions will form a set of policies that will be presented in the next chapter.

CHAPTER TEN

POLICIES FOR THE BALTIC STATES LIMITATIONS OF THE STUDY AND CONCLUSIONS

10.1 Introduction

The aim of this final chapter is to present a set of composite policies for the Baltic States, based on the information derived from the analysis of the results and the anecdotal data provided by experts in the Baltic Sea region. In addition, a discussion of the practical implications of this research and the contribution of this study in the areas of theory development and further research in the maritime sector and the Baltic States region in particular, will be presented. Moreover, recommendations for further research in the Baltic Sea, Russia and the Asian regions will be given. Last but not least, the author will provide the conclusions for this research.

10.2 Composite Policies for the Baltic States

The Baltic States of Estonia, Latvia and Lithuania have made significant progress in all areas in the transport sector since the break-up of the Soviet Union in 1991. However, a well-functioning transport sector is vital in furthering economic and social development as well as improving the levels of domestic and foreign trade.

Despite the positive development in all three Baltic States, continued efforts are required in order to improve the transport sector further. Therefore, in the light of the objectives set out in chapter one the first section in this chapter aims to present policies that can contribute in improving the rail container transit transport sector where it is needed.

The transport sector as a whole is divided into: the railway, sea, air and road transport. Among these, the transport sector that is lacking most of all in the Baltic States is railway transport. As revealed by the experts, most of the container volumes arrive to the major Baltic States container ports by trucks rather than rail. The main reason is the high level of rail tariffs imposed by Russia for containers heading to Baltic States ports. Hence, the first composite policy developed involves the reduction of rail tariffs and the implementation of cost-based tariff policies, in order for Baltic States' railways to gain an advantage over road transport, which incidentally comes in line with the EU efforts to promote rail and sea transport rather than road transport.

Nevertheless, the major concern is the lack of infrastructure in the Baltic States railways. Although, their position has been radically changing during transition, the railway services are becoming a competitive market commodity, in the light of projects like TEN and TERFN. In order for the Baltic States railways to achieve a competitive market position, operations will have to become efficient by reconstructing existing rail lines, which connect the Baltic States to their major ports, and investing further in rail connections that connect these countries to the TEN and TERFN systems, in order to attract container flows moving from West to East and vice versa. In addition, new technology is very important in order to increase the railways' quality and standards. This can include tracking systems that can detect where the containers are at all times, as well as new wagons that can carry 40-foot containers.

Moreover, the Baltic States lack transport organisation. Any form of industry or corporation cannot function properly and profitably without being well organised. As far as the railways are concerned, the Baltic States' railway operators can organise their operations by giving priority to international freight services, organise block trains from Russia and other Asian countries to the major Baltic States container ports, and reduce

customs procedures. The long customs procedures are a problem for the parties involved in this trade because they cause delays and excessive amounts of paper work for transit freight.

Another issue that the governments of the three Baltic States will have to address is the separation of their transport operations from the infrastructure management as far as the railways are concerned, in order to enable new rail operators fair access to the rail market and comply with EU Railway Directives and become part of the TERFNs. In a few words the governments of the Baltic States would have to increase the management independence of railway companies with regard to their international operations and the infrastructure of the railways concerned.

On the other hand, sea transport is in a better position than the railways in all three Baltic States. More specifically, the infrastructure and operations of maritime transport in the Baltic States were previously handled by single organisations. However, the privatisation of maritime transport has been relatively rapid and deregulation of the Baltic States seaports' infrastructure and operations is proceeding. The Baltic States ports have increased their capacity, improved the quality of services and modernised their handling equipment. In addition, these container ports (Tallinn, Riga, Leipaja, Klaipeda) have attracted new shipping services and became highly competitive with other Baltic ports, such as Kotka, Hamina, and St. Petersburg. Nevertheless, further actions are required in order to face the challenges from global changes, including, the Euro-Asian transport corridors, TEN, TERFN, and the inevitable doubling of container volumes in the next decade. The main requirements are: to expand existing container facilities in order to enable the Baltic States' ports to facilitate anticipated significant expansion of sea container traffic as at other Baltic ports, improve safety in cargo handling, enhance environmental protection and improve logistics in the ports.

In addition, based on comments derived by the experts involved in the trade in this region, another policy would be increased co-operation between the sea and rail transport systems in the Baltic States, as well as the co-ordination of their efforts to attract container flows from West-East and vice versa, via the Trans Siberian Railway. If the Baltic States can create a logistical chain that can co-ordinate the movement of containers moving via the TSR in block trains, through the Baltic States railways and straight into vessels heading to Western Europe, this can increase the attractiveness of the Baltic States route. In order to co-ordinate such operation between these two modes of transport, a regulatory body can be created with the responsibility of implementing such a policy. In addition, if the operators involved in these two modes of transport reduced tariffs or even introduced a common tariff to cover all the costs involved in this logistical chain, the benefits would be considerable. However, in order for such a policy to have an impact, the government should increase the level of consciousness and information of the participants in the transport sector.

The Baltic States of Lithuania, Latvia and Estonia could develop a regional policy for cooperation among themselves, because the expected increase in containers volumes in the Baltic Sea region will create enough competition in that region, and the Baltic States on their own are quite small to compete with Finnish and Russian ports in the Baltic Sea region. Again it should be mentioned that the three Baltic States ports are ice-free, while the Finnish and the Russian ports in the Finnish Gulf are not. Moreover, the Baltic States will become part of the European Union in May 2004, which might put them into a stronger position in terms of competition with Russia. It is difficult to predict, nevertheless such an advantage could be expressed in terms of allocated EU funds for port expansion and service and infrastructure improvement in the Baltic States.

Another policy that all three Baltic States can adopt, is the co-operation and co-ordination of the Baltic States' commercial actions with other Euro-Asian countries, such as

Kazakhstan, Kurdistan, Azerbaijan, Turkmenistan, and Tajikistan, in the light of the Euro-Asian transport corridors, in order to attract more container traffic. Appendix 22 presents the three Euro-Asian lines. As one can see, all the Baltic States are connected with line A at Minsk, and with line B at Kiev. This indicates clearly that the Baltic States must pay particular attention to the potential of transit of Euro-Asian countries because these countries mentioned above, are at the junction of two main lands, Asia and Europe.

Nevertheless, one of the most important policies that one could propose is the policy where the Baltic States should put a lot of effort into improving their relations with Russia. Russia is a major transport power connecting two huge markets, the European and Asian markets via a continuous railway line. In order for the Baltic States to increase their share in the TSR container market, their governments should focus on giving priority to Russian cargo or Russian customers and even discuss with the Russian government a way of reducing customs procedures at their borders.

Finally, the Baltic States should adopt a marketing strategy which will promote the Baltic States route as the transport and distribution centre and bridge between the East and the West. A more successful promotion of the Baltic States route on international markets can consequently increase the container traffic on this route.

10.3 Barriers to Policy Implementation

The policies presented above indicate that the Baltic States have great potential and major possibilities mainly in the rail and sea sector. As established through some of these policies, long-term infrastructure maintenance in both the railways and the ports where the funds would derive from the private sector is an area where the government should focus upon particularly. However, the creation of such a policy that could attract more foreign investors can find obstacles if the governments of the three Baltic States do not offer

attractive deals to potential investors in order to achieve such a goal or if they do not promote and advertise the advantages of their transport sector enough.

Another barrier to this research is the political relations between Russia and the Baltic States. Since the break-up of the Soviet Union, Lithuania, Latvia and Estonia have had interesting relations with Russia because these countries managed to steer their economies away from Russia's control. This is both because the Baltic States ports are ice-free and because of the Kaliningrad region which belongs to Russia, but lies such that it is separated by the Russian mainland by the Baltic States. Such circumstances placed both sides into a position where a common understanding had to be found and good relations were necessary. Although there were some difficulties during the first years of the Baltic States independence, most of them were resolved. Further cooperation between the Baltic States and Russia is necessary in order to establish a reliable route with competitive rail tariffs. Nevertheless, Russia is very competitive towards the Baltic States ports and in the light of increasing volumes of containers in the near future, Russia would have to decide between cooperating with the Baltic States or losing customers due to the lack of capacity.

10.4 Limitations of the Study

While conducting this research the author came across various complications. The first problem that occurred was the collection of information related to this study. Unfortunately there was only limited academic literature on the Trans-Siberian Railway or about the role of the Baltic States in the Trans Siberian Railway market. A lot of detail concerning both, the Trans Siberian Railway operation as well as the Baltic States position in the TSR market, was collected through anecdotal data derived from the experts in the Baltic Sea and Russian Region. This notion indicates that without the contribution and the co-operation of the experts this research would not have reflected the practical issues related

to the construct under investigation, but would have only reflected the theoretical issues related to the TSR and the Baltic States derived through the literature.

In addition, another complication was the fact that most of the experts in the Baltic Sea region did not speak English. This problem was overcome with the co-operation of a colleague who translated the questionnaires into Lithuanian. This way the experts found few problems in understanding and answering the statements.

Moreover, the collection of accurate figures about the movement of containers in various countries as well as on the Trans Siberian Railway was a rather difficult task, because different sources presented different figures. Nevertheless, the researcher decided to use the figures provided by the most reliable sources, including various Ministries of Transport and figures presented in international conferences.

Last but not least, the collection of a valid and reliable statistical technique for the analysis of the results was both time consuming and stressful. As mentioned in the previous chapter, initially the researcher had decided to conduct a multivariate analysis. However, once the data was collected, it was realised that the results had only one independent variable, whilst multivariate analysis requires many independent variables. In order to overcome this problem, the researcher examined other possible techniques but following the advice of two statistics experts decided to apply parametric techniques.

10.5 Successes and Failures of the Study

The author of this research had set a number of objectives prior to initiating this study. One success of this work is that the research managed to cover most of the areas that were related to the construct under investigation and succeeded in meeting all the objectives that were presented at the beginning of this study.

In addition, another success is that the researcher managed to collect enough information in order to conduct a reliable and valid set of statistical tests, that enabled the researcher to form an opinion about the Baltic Sea region and create a set of composite policies for the Baltic States.

Moreover, this research enabled the author to attend a number of very important and prestigious conferences, such as the ECMT Conference in Paris in 2001, where the researcher had the chance to meet a number of Transport Ministers from the Baltic Sea region and establish contacts for future co-operation.

An area which this research failed to cover successfully was the presentation of data for the newly established port of Ventspils as well as for the precise number of containers moving by railways for each one of the Baltic States in the last decade. In the first case, the author was not able to find any information about the handling of containers in the port of Ventspils, because the port did not publish any. Although, the researcher of this study visited Latvia, no further information than that published in the press was given about this port.

Moreover, as far as the precise numbers of containers moving via the Baltic States' railways was concerned, the Ministries of Railways of each Baltic State were unable to assist because there were no records held during the Soviet times, and since the Baltic States became independent they did not keep a record of container origin.

10.6 Recommendations for Future Research

This research has attempted to make a contribution to the study of the potential of the Baltic States as a transit route for containers moving via the Trans Siberian Railway to Western Europe. Although many questions related to the study have been answered through this research, the study has also raised a number of further questions that require further research in order to be answered. For example, it would be very beneficial if similar research could be undertaken, where one could examine the effect that the EU could have on the Baltic States after their entrance in May 2004. This would be very interesting because one could analyse the political context in the Baltic Sea region and the effects that the Baltic States accession to the EU would have in relation to container transit in practice.

Future research could focus on examining the Euro-Asian transport corridors and the effects they might have on world container trade. The results derived from such research could be good indicators about the future of globalisation and the countries' economies. It could also indicate the transport standards imposed on a world level regarding transportation time, customs procedures and total transportation costs.

In addition, research could be undertaken on the EU transport projects including TEN and TERF and the effects of these projects on the market. Such research can contribute considerably to understanding the transport sector in Europe as well as benefit transport operators worldwide.

10.7 Conclusion

After three years of research in the Baltic Sea region it was established that the only way that the Baltic States can optimise transport progress and attract containers in transit, is to integrate and co-operate the various modes of transport and more specifically, sea and rail transport. Presently there is a real opportunity to increase container cargo flow from Asian

countries, some of which are showing a high interest in container transportation to Europe via the Trans Siberian Railway.

The railway route attracts overseas shippers by providing shorter transit time in comparison with the deep-sea carriers. In addition, Russian and Baltic States' companies interested in the attraction of container transit are working hard on improvement of the railway services. Although the Baltic States have improved their transport systems considerably since 1991, one has to admit that from a technological and organisational point of view the Baltic States railways still lag behind the contemporary European railway systems that effectively co-operate with each other to an extent. The main goal of the Baltic States at present is to create competitive railway transportation systems, which comply with the requirements of the European Union, and develop a major transit route for containers moving from East to West and vice versa.

In modern times of growing globalisation of the world economy and the expected growth of container volumes in the next decade, Russia's transport systems are expected to have a strategic importance for the economic development of countries of both Asia and Europe. Many countries, both in the West and East are interested to use Russia's transport routes, however Russia alone cannot become Euro-Asia's transport power. Hence, the Baltic States of Estonia, Latvia, and Lithuania have the opportunity and the capability to co-operate with Russia and become a transport bridge between the East and the West.

This research represents an attempt to examine the potential of a specific region (the Baltic States) in a specific container transit market (TSR). However, the importance of container transit worldwide is undisputed, and in the context of globalisation and future transport projects, it is essential to continue conducting research in all the areas of the transport sector. More specifically, the future transport projects adopted by the EU are expected to

boost transit of cargo in Europe and improve considerably the efficiency and quality of service throughout Europe, whilst all the countries involved can compete and have equal opportunities.

APPENDIX 1

MAP OF THE TRANS SIBERIAN RAILWAY



Source: Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, pp. 34, Published by EIR News Service Inc., Washington, USA.

*Please note that the Trans Siberian Railway in the blue rail line starting in Moscow and finishing in Vladivostok.

APPENDIX 2

MAP OF THE BALTIC STATES

This map illustrates the Baltic Sea region, highlighting the countries of Finland, Sweden, Estonia, Latvia, Lithuania, Russia, Belarus, and Poland. The Baltic Sea is centrally located, with the Gulf of Finland to the north and the Gulf of Riga to the south. Major cities such as Helsinki, Tallinn, Riga, Vilnius, and Minsk are marked. The map also shows significant rivers like the Neva, Daugava, and Vistula, and islands such as Gotland and Saaremaa. A legend in the top left corner defines symbols for international boundaries, national capitals, railroads, and roads. A scale bar at the bottom left provides distances in both kilometers and miles.

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APPENDIX 3

THE JOURNALS USED FOR CONTENT ANALYSIS

The Journals Used for Content Analysis and the Number of Articles Found Related to the research from December 1980 to December 2001.

Name of Journal	Number of Articles Found Related to the research
Cargo Systems	15
Containerization International	17
Fairplay	6
Financial Times	3
Infomare (Italian)	5
International Bulk Journal	3
International Journal of Physical Distribution and Logistics Management.	2
International Railway	12
ITAR-TASS (Russian)	22
Japan Railway and Transport Review	6
Journal of Commerce	9
Jura (Lithuanian)	27
Lloyd's List	42
Lloyd's Maritime Asia	11
Lloyd's Shipping Economist	8
Lloyd's Shipping Management	5
Logistics and Transportation Review	7
Maritime Policy and Management	6
Port Development International	13
Pravda (Russian)	21
Railway Gazette International	14
Reuters	5
Sea Trade Review	7
SeaNews	21
Soviet Shipping	10
The Baltic Times	17
The Economist	3

The Journal of Shipping Finance	2
The Korean Times	21
The Moscow Times	12
The New York Times	2
The Russian Journal	17
The RZD-Partner Magazine (Russian)	10
The St. Petersburg Times	8
Transport Reviews	7
Vladivostok News	3
Total	399

APPENDIX 4

THE QUESTIONNAIRE FOR THIS RESEARCH

Container flows

Major container flows arriving from the United States and Japan to Korean ports then pass through Chinese railways to Western Europe via Asia and Ukraine.

Statement 1: Russian companies can reroute some of these flows to Vostochny port and then via the TSR to Baltic ports heading for Western Europe.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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There are container flows heading to Central European destinations through the rail junction at Brest on the Belarus-Poland border.

Statement 2: Baltic State’s sea and railway operators would be able to compete if they offer lower prices.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Finnish market and Baltic States market for TSR containers

Sources suggest that most transit container flows currently use the TSR system to deliver to warehouses in Finland and not St. Petersburg, for security reasons.

Statement 3: The Baltic States ports are efficient, secure, cost effective, and ice free. Therefore, they can compete with Finnish ports and re-route a high share of these container flows to the Baltic ports.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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Statement 4: Baltic States can dominate as transit ports for container flows moving via TSR to Western Europe.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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Japanese Market

The world cargo flow is regrouping in a more focused search for more effective routes, including Eurasian ones. The exchange of goods between Europe and Asia makes up half the world's cargo. Almost all Euro-Asian routes pass within the transportation networks of the CIS countries and primarily Russia. One of these corridors is the Europe-Russian railroad-Japan.

Statement 5: The construction of a Europe-Russia-Japan corridor would be of strategic importance because it will secure a maximum use of the TSR and the Baltic States seaports.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Statement 6: Japanese companies will continue moving containers via the deep-sea route to Western and Central Europe, if the TSR rates are not competitive enough.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Statement 7: Japan is rather apprehensive with regard to resuming shipment of containers to Europe via TSR due to the negative experience they had 12 years ago due to the inefficiency of the TSR.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Korean Market

South and North Korea have agreed to re-establish a rail link that has been broken for half century. Moreover, the two sides pledge to make all the necessary efforts to unite the trans-Korean railway to TSR.

Statement 8: The reconstruction of the rail link across South and North Korea will lead to a connection with the TSR, which would allow Russia to become a transport bridge between South and North Korea’s export-driven economy with the Baltic States and Western Europe.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Statement 9: The reconstruction of rail link across South and North Korea with the TSR would dramatically reduce the cost and time needed for moving containers from Korean peninsula to Russia and Western Europe.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Statement 10: Rival competition from China could lead to re-routing the Korean container flows though their borders to Western Europe.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Chinese Market

In 2000 a new railway line (Primorye line) was established, connecting key segments of Russia and China.

Statement 11: The new line between Russia and China can become a bridge for Russian companies to connect China with European markets via the TSR.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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Statement 12: **The trade between the two countries will rise because of this new line.**

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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Kazakhstan Market

For Kazakhstan, Russia and the Baltic countries is one of the most important market priorities for transport system development. A significant part of trans-continental routes crosses Russia.

Statement 13: **A unification of the Russian and Kazakhstan transport routes may provide a base for several projects, profitable for both countries as well as for the Baltic States, which would be able to use Russian and Kazakhstan territory for transit.**

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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USA Market

It was published that in 2000 the Trans Siberian Railway and Alaska signed an agreement for the movement of cargo from Alaska to Europe, via the TSR.

Statement 14: Projects providing for a link-up of Russia’s TSR with railways in North America will play a prominent role in promoting the East European economy of the 21st century.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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Statement 15: The agreement between TSR and Alaska shows that the potential for transportation of containers in the former USSR region is huge.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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Reconstruction of TSR

The Russian Ministry of Railways decided in 2000 that there is the need to reconstruct the technical foundations of TSR and modernize its technology.

Statement 16: Reconstruction of TSR will improve the state of efficiency of the TSR and reduce freight charges.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Statement 17: The modernization of the TSR could lead to the creation of an international rail network with the Baltic States, creating a new market that can attract more cargo moving from Far East to Western Europe.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:
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Unreliability

In the recent past a series of strikes cost a lot of money and time to TSR’s consumers and operating companies.

Statement 18: The Russian Ministry of Railways would have to adopt policies in order to avoid such incidences happening again because it can result in losing clients as in the past.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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Statement 19: The Russian Ministry of Railways would have to focus on re-establishing the old glory of the TSR in order to attract more investors and increase container flows.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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APPENDIX 5

TABLE PRESENTING EXPERTS AND THEIR SCORES

No.	TYPE*	ITEMS																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Industry	2	4	2	2	2	2	2	2	2	3	2	2	1	2	2	2	2	2	2
2	Industry	1	2	1	1	2	2	3	2	3	2	2	1	1	2	2	1	2	2	2
3	Industry	2	4	2	2	4	1	1	3	2	2	2	2	2	3	3	2	2	2	2
4	Industry	2	2	4	4	3	1	2	4	4	3	2	4	3	4	4	2	3	2	3
5	Academics	3	2	4	3	2	1	2	2	4	4	2	2	2	4	2	2	2	2	2
6	Industry	2	4	2	4	2	2	2	2	2	2	2	2	2	4	2	2	4	2	2
7	Industry	3	3	3	2	4	2	3	3	3	3	2	3	3	4	2	3	2	3	3
8	Industry	2	2	3	2	2	1	3	2	3	3	3	2	2	4	3	2	1	2	2
9	Industry	2	1	1	1	1	2	2	2	2	2	3	3	2	4	3	3	2	1	1
10	99**	1	2	3	3	2	2	1	2	2	2	2	2	2	4	3	5	2	1	1
11	Journalists	2	5	5	5	5	1	3	3	5	3	2	3	2	4	4	3	5	3	4
12	Industry	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
13	Industry	2	2	3	4	3	2	2	2	2	2	2	3	2	3	3	2	2	2	1
14	Journalists	4	2	2	2	4	1	1	4	4	4	4	3	2	5	4	4	2	1	1
15	Government	4	4	2	4	1	2	2	2	2	4	2	2	2	2	2	2	2	2	2
16	Government	1	2	2	2	4	4	2	4	2	2	2	2	2	4	2	2	2	2	2
17	Government	3	2	2	2	1	1	3	2	2	2	2	2	1	2	2	2	2	2	2
18	Industry	3	2	2	3	2	2	3	3	3	2	3	2	3	3	2	3	2	1	1
19	Industry	1	2	2	2	1	2	2	1	3	3	3	2	2	1	2	3	2	1	2
20	Industry	1	1	1	1	2	2	3	2	3	3	2	2	2	3	2	3	2	1	1
21	Industry	2	1	1	4	2	1	3	1	2	2	1	2	4	4	2	1	1	1	1
22	Academics	2	2	2	3	2	4	3	2	4	2	2	2	1	2	1	2	2	2	1
23	Academics	2	2	2	4	1	1	2	1	2	2	2	2	2	2	3	1	1	4	1
24	Academics	2	2	2	4	2	1	3	2	2	2	1	1	1	4	2	1	1	4	1
25	Academics	1	2	1	3	2	2	2	2	3	3	1	1	3	3	3	1	2	3	2
26	Academics	2	1	1	2	1	2	3	2	1	1	1	2	1	3	2	4	1	1	1
27	Industry	2	1	2	1	1	3	2	1	3	1	2	2	1	4	2	1	1	1	1
28	Industry	2	1	2	1	1	3	2	1	3	1	2	2	1	4	2	1	2	1	1
29	Industry	2	1	2	2	3	3	3	2	2	3	1	2	2	3	3	2	1	1	1
30	Industry	3	4	2	2	1	4	2	2	2	2	2	2	2	2	2	2	2	2	2
31	Industry	2	4	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	2	1
32	Government	2	4	1	2	2	2	3	2	4	4	2	2	2	3	3	1	1	1	2
33	Government	2	3	3	2	2	2	3	2	2	2	2	3	2	3	3	2	2	2	2
34	Government	1	2	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	1	1
35	Academics	2	1	3	2	2	1	3	4	3	2	2	3	2	3	2	2	2	2	3
36	Academics	2	2	4	2	2	2	2	1	2	3	2	3	2	4	3	3	2	1	1
37	Industry	2	2	3	3	2	2	4	2	2	2	3	2	2	3	2	2	2	4	3
38	Industry	2	3	3	4	4	2	2	2	3	2	2	2	2	3	2	3	2	2	2
39	Industry	4	1	1	1	4	4	4	4	4	4	4	4	3	3	4	1	4	4	2
40	Industry	3	4	2	2	1	2	2	2	3	2	4	4	1	4	3	2	2	1	1
41	Industry	2	3	2	4	4	1	1	3	4	2	5	4	1	5	4	2	4	1	3
42	Industry	2	2	3	4	2	2	4	2	2	3	3	2	2	4	2	2	2	2	2
43	99	1	1	1	1	3	2	2	2	2	3	2	3	2	2	1	1	1	1	4
TOTAL		91	100	94	108	99	86	104	96	114	107	95	101	84	137	107	91	87	81	78
MEAN		2.1	2.3	2.2	2.5	2.3	2	2.4	2.2	2.7	2.5	2.2	2.3	2	3.2	2.5	2.1	2	1.9	1.8

* Type refers to the occupation of the experts

** 99 is the number that the SPSS uses for the missing values

APPENDIX 6

ITEM-TOTAL CORRELATION

Correlations

		ITEM_1	ITEM_2	ITEM_3	ITEM_4
ITEM_1	Pearson Correlation	1	.227	.155	.092
	Sig. (2-tailed)	.	.143	.321	.556
	N	43	43	43	43
ITEM_2	Pearson Correlation	.227	1	.250	.323*
	Sig. (2-tailed)	.143	.	.106	.034
	N	43	43	43	43
ITEM_3	Pearson Correlation	.155	.250	1	.496**
	Sig. (2-tailed)	.321	.106	.	.001
	N	43	43	43	43
ITEM_4	Pearson Correlation	.092	.323*	.496**	1
	Sig. (2-tailed)	.556	.034	.001	.
	N	43	43	43	43
ITEM_5	Pearson Correlation	.041	.194	.282	.223
	Sig. (2-tailed)	.792	.212	.067	.150
	N	43	43	43	43
ITEM_6	Pearson Correlation	.034	-.099	-.250	-.365*
	Sig. (2-tailed)	.827	.529	.106	.016
	N	43	43	43	43
ITEM_7	Pearson Correlation	.114	-.222	.021	-.006
	Sig. (2-tailed)	.465	.153	.895	.970
	N	43	43	43	43
ITEM_8	Pearson Correlation	.316*	.096	.177	.048
	Sig. (2-tailed)	.039	.541	.256	.762
	N	43	43	43	43
ITEM_9	Pearson Correlation	.198	.096	.301*	.139
	Sig. (2-tailed)	.202	.540	.050	.375
	N	43	43	43	43
ITEM_10	Pearson Correlation	.397**	.220	.155	.060
	Sig. (2-tailed)	.008	.156	.322	.702
	N	43	43	43	43
ITEM_11	Pearson Correlation	.335*	.029	.070	-.042
	Sig. (2-tailed)	.028	.855	.655	.787
	N	43	43	43	43
ITEM_12	Pearson Correlation	.369*	.061	.297	.009
	Sig. (2-tailed)	.015	.700	.053	.953
	N	43	43	43	43
ITEM_13	Pearson Correlation	.141	-.073	.084	.217
	Sig. (2-tailed)	.367	.640	.594	.163
	N	43	43	43	43
ITEM_14	Pearson Correlation	.163	-.083	.351*	.226
	Sig. (2-tailed)	.296	.596	.021	.145
	N	43	43	43	43
ITEM_15	Pearson Correlation	.257	.173	.287	.201
	Sig. (2-tailed)	.097	.268	.062	.197
	N	43	43	43	43
ITEM_16	Pearson Correlation	.078	.032	.340*	.101
	Sig. (2-tailed)	.619	.840	.026	.518
	N	43	43	43	43
ITEM_17	Pearson Correlation	.199	.356*	.378*	.347*
	Sig. (2-tailed)	.200	.019	.012	.022
	N	43	43	43	43

Table Caption

Correlations

		ITEM_1	ITEM_2	ITEM_3	ITEM_4
ITEM_18	Pearson Correlation	.212	.176	.232	.332*
	Sig. (2-tailed)	.172	.258	.134	.030
	N	43	43	43	43
ITEM_19	Pearson Correlation	-.002	.293	.384*	.202
	Sig. (2-tailed)	.988	.057	.011	.195
	N	43	43	43	43
TOTAL	Pearson Correlation	.464**	.384*	.591**	.449**
	Sig. (2-tailed)	.002	.011	.000	.003
	N	43	43	43	43

Table Caption

Correlations

		ITEM_5	ITEM_6	ITEM_7	ITEM_8
ITEM_1	Pearson Correlation	.041	.034	.114	.316*
	Sig. (2-tailed)	.792	.827	.465	.039
	N	43	43	43	43
ITEM_2	Pearson Correlation	.194	-.099	-.222	.096
	Sig. (2-tailed)	.212	.529	.153	.541
	N	43	43	43	43
ITEM_3	Pearson Correlation	.282	-.250	.021	.177
	Sig. (2-tailed)	.067	.106	.895	.256
	N	43	43	43	43
ITEM_4	Pearson Correlation	.223	-.365*	-.006	.048
	Sig. (2-tailed)	.150	.016	.970	.762
	N	43	43	43	43
ITEM_5	Pearson Correlation	1	-.050	-.070	.655**
	Sig. (2-tailed)	.	.748	.653	.000
	N	43	43	43	43
ITEM_6	Pearson Correlation	-.050	1	.179	.000
	Sig. (2-tailed)	.748	.	.252	1.000
	N	43	43	43	43
ITEM_7	Pearson Correlation	-.070	.179	1	.030
	Sig. (2-tailed)	.653	.252	.	.848
	N	43	43	43	43
ITEM_8	Pearson Correlation	.655**	.000	.030	1
	Sig. (2-tailed)	.000	1.000	.848	.
	N	43	43	43	43
ITEM_9	Pearson Correlation	.444**	-.063	.046	.407**
	Sig. (2-tailed)	.003	.689	.770	.007
	N	43	43	43	43
ITEM_10	Pearson Correlation	.266	-.103	.086	.288
	Sig. (2-tailed)	.084	.513	.582	.061
	N	43	43	43	43
ITEM_11	Pearson Correlation	.282	.000	-.069	.385*
	Sig. (2-tailed)	.067	1.000	.662	.011
	N	43	43	43	43
ITEM_12	Pearson Correlation	.365*	-.036	-.095	.471**
	Sig. (2-tailed)	.016	.817	.547	.001
	N	43	43	43	43
ITEM_13	Pearson Correlation	.307*	-.040	.174	.266
	Sig. (2-tailed)	.045	.801	.265	.085
	N	43	43	43	43
ITEM_14	Pearson Correlation	.321*	-.234	-.146	.278
	Sig. (2-tailed)	.036	.131	.352	.071
	N	43	43	43	43
ITEM_15	Pearson Correlation	.420**	-.249	-.195	.410**
	Sig. (2-tailed)	.005	.108	.211	.006
	N	43	43	43	43
ITEM_16	Pearson Correlation	.153	-.088	-.204	.208
	Sig. (2-tailed)	.326	.575	.189	.181
	N	43	43	43	43
ITEM_17	Pearson Correlation	.490**	.031	-.015	.472**
	Sig. (2-tailed)	.001	.845	.925	.001
	N	43	43	43	43

Table Caption

Correlations

		ITEM_5	ITEM_6	ITEM_7	ITEM_8
ITEM_18	Pearson Correlation	.201	.000	.405**	.218
	Sig. (2-tailed)	.195	1.000	.007	.160
	N	43	43	43	43
ITEM_19	Pearson Correlation	.450**	-.160	.159	.427**
	Sig. (2-tailed)	.002	.305	.308	.004
	N	43	43	43	43
TOTAL	Pearson Correlation	.685**	-.073	.109	.678**
	Sig. (2-tailed)	.000	.643	.488	.000
	N	43	43	43	43

Table Caption

Correlations

		ITEM_9	ITEM_10	ITEM_11	ITEM_12
ITEM_1	Pearson Correlation	.198	.397**	.335*	.369*
	Sig. (2-tailed)	.202	.008	.028	.015
	N	43	43	43	43
ITEM_2	Pearson Correlation	.096	.220	.029	.061
	Sig. (2-tailed)	.540	.156	.855	.700
	N	43	43	43	43
ITEM_3	Pearson Correlation	.301*	.155	.070	.297
	Sig. (2-tailed)	.050	.322	.655	.053
	N	43	43	43	43
ITEM_4	Pearson Correlation	.139	.060	-.042	.009
	Sig. (2-tailed)	.375	.702	.787	.953
	N	43	43	43	43
ITEM_5	Pearson Correlation	.444**	.266	.282	.365*
	Sig. (2-tailed)	.003	.084	.067	.016
	N	43	43	43	43
ITEM_6	Pearson Correlation	-.063	-.103	.000	-.036
	Sig. (2-tailed)	.689	.513	1.000	.817
	N	43	43	43	43
ITEM_7	Pearson Correlation	.046	.086	-.069	-.095
	Sig. (2-tailed)	.770	.582	.662	.547
	N	43	43	43	43
ITEM_8	Pearson Correlation	.407**	.288	.385*	.471**
	Sig. (2-tailed)	.007	.061	.011	.001
	N	43	43	43	43
ITEM_9	Pearson Correlation	1	.423**	.414**	.300
	Sig. (2-tailed)	.	.005	.006	.051
	N	43	43	43	43
ITEM_10	Pearson Correlation	.423**	1	.245	.265
	Sig. (2-tailed)	.005	.	.113	.086
	N	43	43	43	43
ITEM_11	Pearson Correlation	.414**	.245	1	.507**
	Sig. (2-tailed)	.006	.113	.	.001
	N	43	43	43	43
ITEM_12	Pearson Correlation	.300	.265	.507**	1
	Sig. (2-tailed)	.051	.086	.001	.
	N	43	43	43	43
ITEM_13	Pearson Correlation	.131	.346*	.018	.170
	Sig. (2-tailed)	.401	.023	.909	.276
	N	43	43	43	43
ITEM_14	Pearson Correlation	.258	.035	.233	.347*
	Sig. (2-tailed)	.095	.824	.133	.023
	N	43	43	43	43
ITEM_15	Pearson Correlation	.404**	.340*	.409**	.564**
	Sig. (2-tailed)	.007	.026	.006	.000
	N	43	43	43	43
ITEM_16	Pearson Correlation	-.008	.050	.189	.179
	Sig. (2-tailed)	.962	.751	.224	.252
	N	43	43	43	43
ITEM_17	Pearson Correlation	.505**	.186	.461**	.488**
	Sig. (2-tailed)	.001	.233	.002	.001
	N	43	43	43	43

Table Caption

Correlations

		ITEM_9	ITEM_10	ITEM_11	ITEM_12
ITEM_18	Pearson Correlation	.096	.110	.001	-.077
	Sig. (2-tailed)	.541	.481	.992	.625
	N	43	43	43	43
ITEM_19	Pearson Correlation	.360*	.277	.232	.326*
	Sig. (2-tailed)	.018	.072	.134	.033
	N	43	43	43	43
TOTAL	Pearson Correlation	.605**	.499**	.504**	.592**
	Sig. (2-tailed)	.000	.001	.001	.000
	N	43	43	43	43

Table Caption

Correlations

		ITEM_13	ITEM_14	ITEM_15	ITEM_16
ITEM_1	Pearson Correlation	.141	.163	.257	.078
	Sig. (2-tailed)	.367	.296	.097	.619
	N	43	43	43	43
ITEM_2	Pearson Correlation	-.073	-.083	.173	.032
	Sig. (2-tailed)	.640	.596	.268	.840
	N	43	43	43	43
ITEM_3	Pearson Correlation	.084	.351*	.287	.340*
	Sig. (2-tailed)	.594	.021	.062	.026
	N	43	43	43	43
ITEM_4	Pearson Correlation	.217	.226	.201	.101
	Sig. (2-tailed)	.163	.145	.197	.518
	N	43	43	43	43
ITEM_5	Pearson Correlation	.307*	.321*	.420**	.153
	Sig. (2-tailed)	.045	.036	.005	.326
	N	43	43	43	43
ITEM_6	Pearson Correlation	-.040	-.234	-.249	-.088
	Sig. (2-tailed)	.801	.131	.108	.575
	N	43	43	43	43
ITEM_7	Pearson Correlation	.174	-.146	-.195	-.204
	Sig. (2-tailed)	.265	.352	.211	.189
	N	43	43	43	43
ITEM_8	Pearson Correlation	.266	.278	.410**	.208
	Sig. (2-tailed)	.085	.071	.006	.181
	N	43	43	43	43
ITEM_9	Pearson Correlation	.131	.258	.404**	-.008
	Sig. (2-tailed)	.401	.095	.007	.962
	N	43	43	43	43
ITEM_10	Pearson Correlation	.346*	.035	.340*	.050
	Sig. (2-tailed)	.023	.824	.026	.751
	N	43	43	43	43
ITEM_11	Pearson Correlation	.018	.233	.409**	.189
	Sig. (2-tailed)	.909	.133	.006	.224
	N	43	43	43	43
ITEM_12	Pearson Correlation	.170	.347*	.564**	.179
	Sig. (2-tailed)	.276	.023	.000	.252
	N	43	43	43	43
ITEM_13	Pearson Correlation	1	.088	.224	.046
	Sig. (2-tailed)	.	.575	.148	.771
	N	43	43	43	43
ITEM_14	Pearson Correlation	.088	1	.469**	.221
	Sig. (2-tailed)	.575	.	.002	.154
	N	43	43	43	43
ITEM_15	Pearson Correlation	.224	.469**	1	.185
	Sig. (2-tailed)	.148	.002	.	.235
	N	43	43	43	43
ITEM_16	Pearson Correlation	.046	.221	.185	1
	Sig. (2-tailed)	.771	.154	.235	.
	N	43	43	43	43
ITEM_17	Pearson Correlation	.119	.254	.473**	.199
	Sig. (2-tailed)	.448	.100	.001	.202
	N	43	43	43	43

Table Caption

Correlations

		ITEM_13	ITEM_14	ITEM_15	ITEM_16
ITEM_18	Pearson Correlation	.177	-.112	.115	-.286
	Sig. (2-tailed)	.256	.476	.464	.063
	N	43	43	43	43
ITEM_19	Pearson Correlation	.188	-.015	.106	-.062
	Sig. (2-tailed)	.228	.922	.500	.692
	N	43	43	43	43
TOTAL	Pearson Correlation	.376*	.415**	.617**	.272
	Sig. (2-tailed)	.013	.006	.000	.078
	N	43	43	43	43

Table Caption

Correlations

		ITEM_17	ITEM_18	ITEM_19	TOTAL
ITEM_1	Pearson Correlation	.199	.212	-.002	.464**
	Sig. (2-tailed)	.200	.172	.988	.002
	N	43	43	43	43
ITEM_2	Pearson Correlation	.356*	.176	.293	.384*
	Sig. (2-tailed)	.019	.258	.057	.011
	N	43	43	43	43
ITEM_3	Pearson Correlation	.378*	.232	.384*	.591**
	Sig. (2-tailed)	.012	.134	.011	.000
	N	43	43	43	43
ITEM_4	Pearson Correlation	.347*	.332*	.202	.449**
	Sig. (2-tailed)	.022	.030	.195	.003
	N	43	43	43	43
ITEM_5	Pearson Correlation	.490**	.201	.450**	.685**
	Sig. (2-tailed)	.001	.195	.002	.000
	N	43	43	43	43
ITEM_6	Pearson Correlation	.031	.000	-.160	-.073
	Sig. (2-tailed)	.845	1.000	.305	.643
	N	43	43	43	43
ITEM_7	Pearson Correlation	-.015	.405**	.159	.109
	Sig. (2-tailed)	.925	.007	.308	.488
	N	43	43	43	43
ITEM_8	Pearson Correlation	.472**	.218	.427**	.678**
	Sig. (2-tailed)	.001	.160	.004	.000
	N	43	43	43	43
ITEM_9	Pearson Correlation	.505**	.096	.360*	.605**
	Sig. (2-tailed)	.001	.541	.018	.000
	N	43	43	43	43
ITEM_10	Pearson Correlation	.186	.110	.277	.499**
	Sig. (2-tailed)	.233	.481	.072	.001
	N	43	43	43	43
ITEM_11	Pearson Correlation	.461**	.001	.232	.504**
	Sig. (2-tailed)	.002	.992	.134	.001
	N	43	43	43	43
ITEM_12	Pearson Correlation	.488**	-.077	.326*	.592**
	Sig. (2-tailed)	.001	.625	.033	.000
	N	43	43	43	43
ITEM_13	Pearson Correlation	.119	.177	.188	.376*
	Sig. (2-tailed)	.448	.256	.228	.013
	N	43	43	43	43
ITEM_14	Pearson Correlation	.254	-.112	-.015	.415**
	Sig. (2-tailed)	.100	.476	.922	.006
	N	43	43	43	43
ITEM_15	Pearson Correlation	.473**	.115	.106	.617**
	Sig. (2-tailed)	.001	.464	.500	.000
	N	43	43	43	43
ITEM_16	Pearson Correlation	.199	-.286	-.062	.272
	Sig. (2-tailed)	.202	.063	.692	.078
	N	43	43	43	43
ITEM_17	Pearson Correlation	1	.234	.479**	.757**
	Sig. (2-tailed)	.	.131	.001	.000
	N	43	43	43	43

Table Caption

Correlations

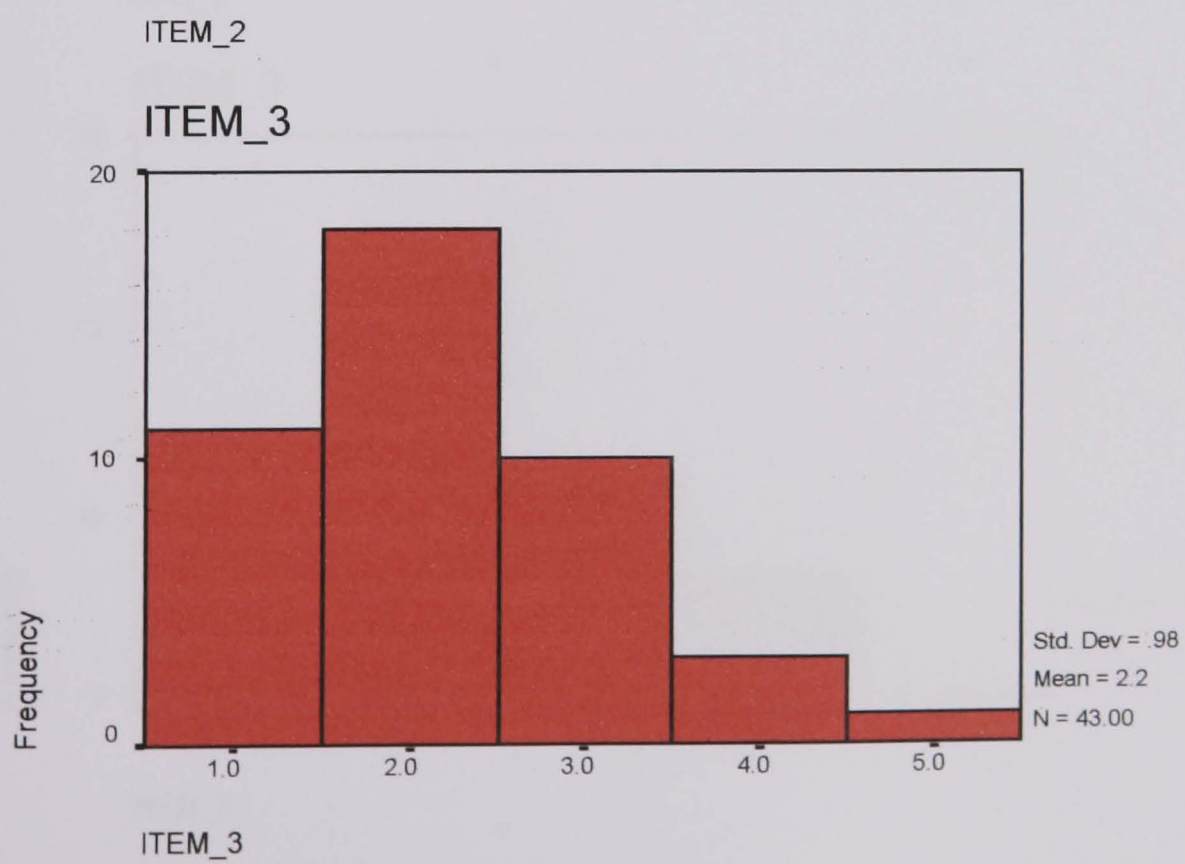
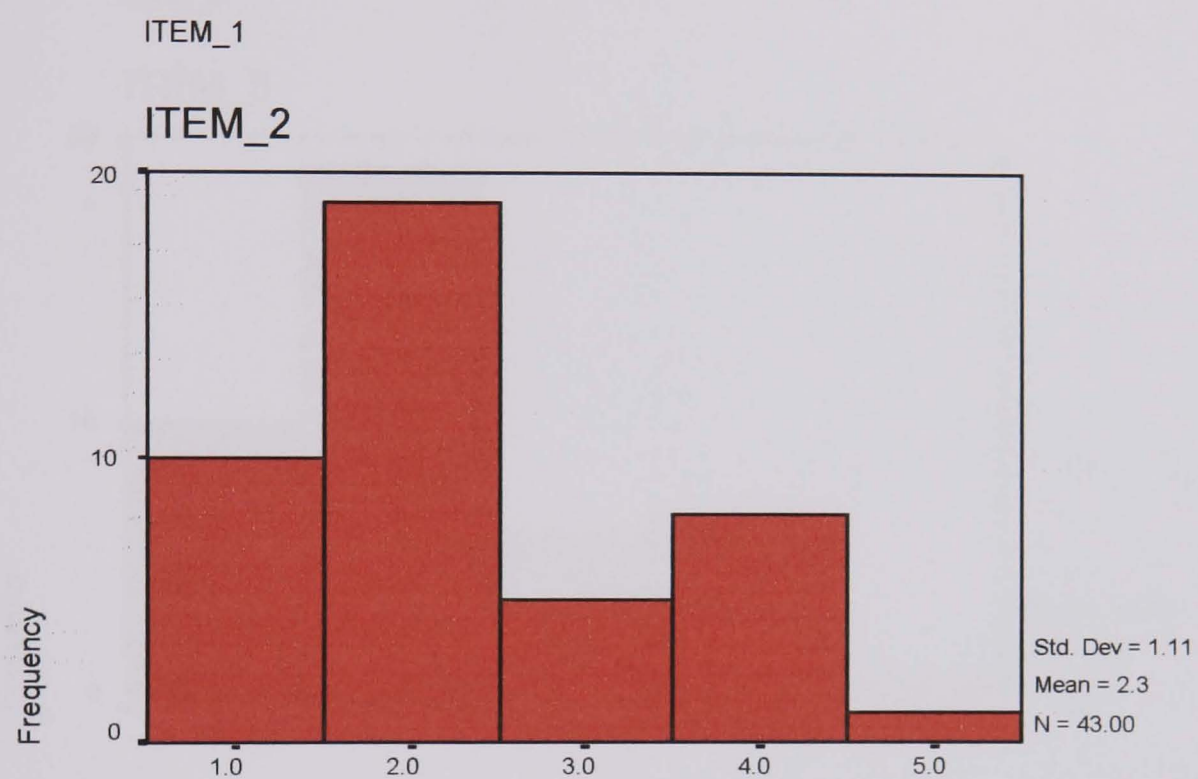
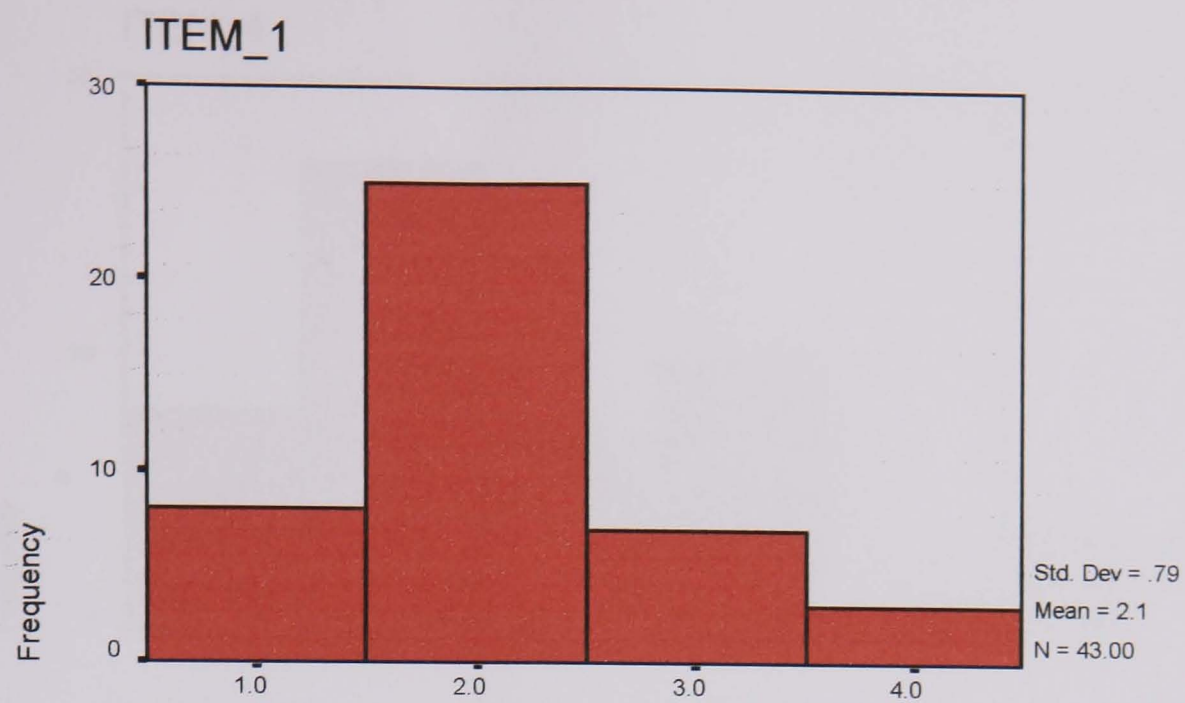
		ITEM_17	ITEM_18	ITEM_19	TOTAL
ITEM_18	Pearson Correlation	.234	1	.332*	.388*
	Sig. (2-tailed)	.131	.	.030	.010
	N	43	43	43	43
ITEM_19	Pearson Correlation	.479**	.332*	1	.565**
	Sig. (2-tailed)	.001	.030	.	.000
	N	43	43	43	43
TOTAL	Pearson Correlation	.757**	.388*	.565**	1
	Sig. (2-tailed)	.000	.010	.000	.
	N	43	43	43	43

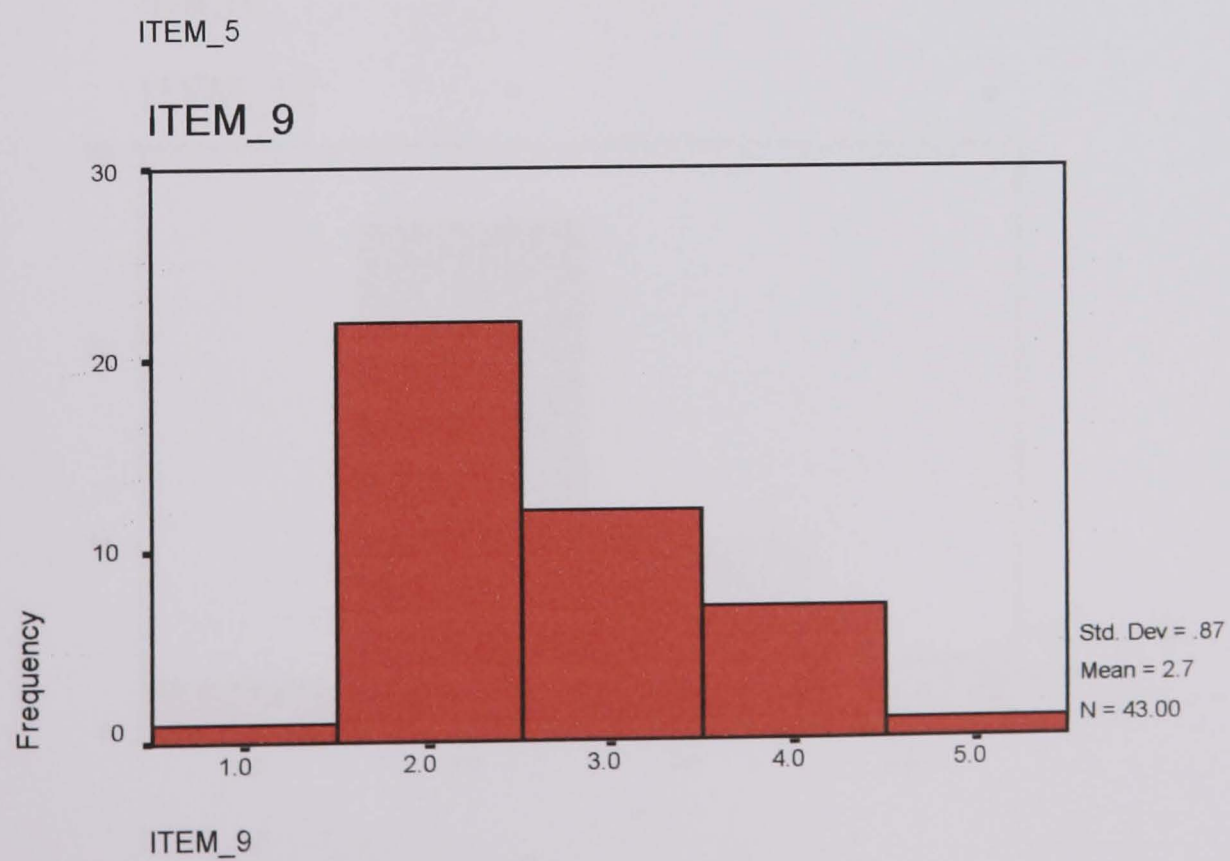
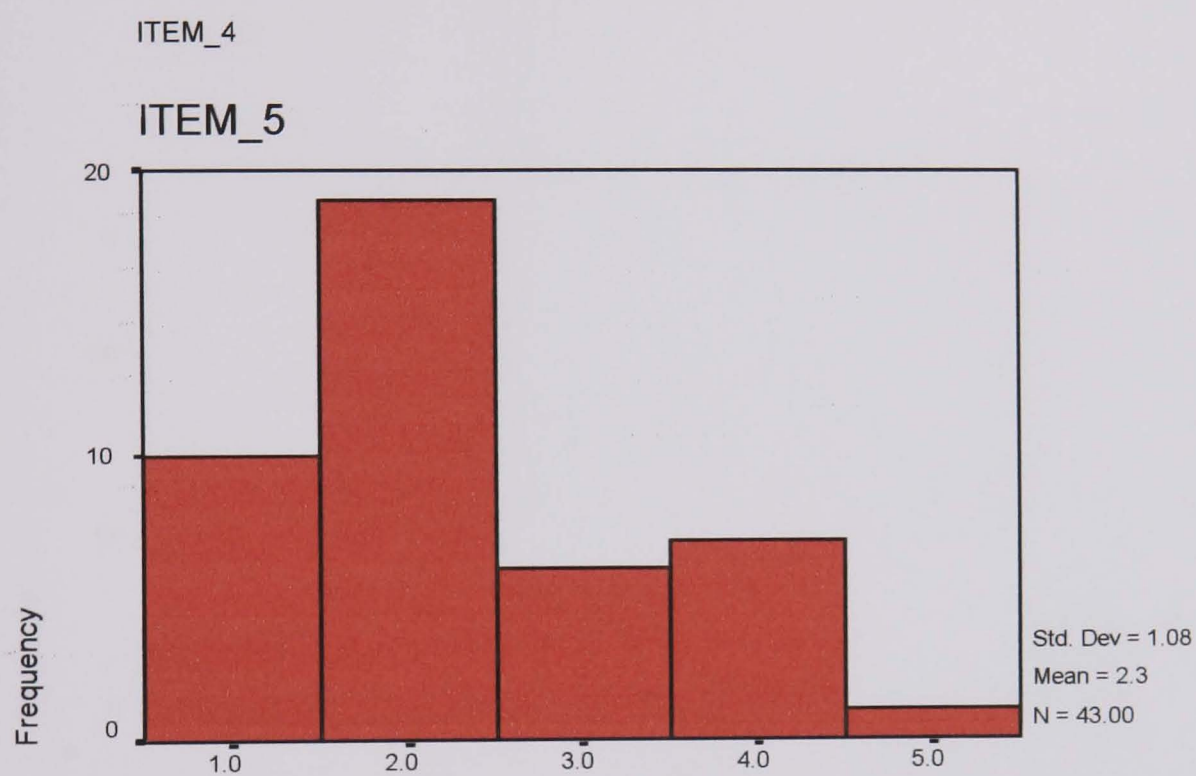
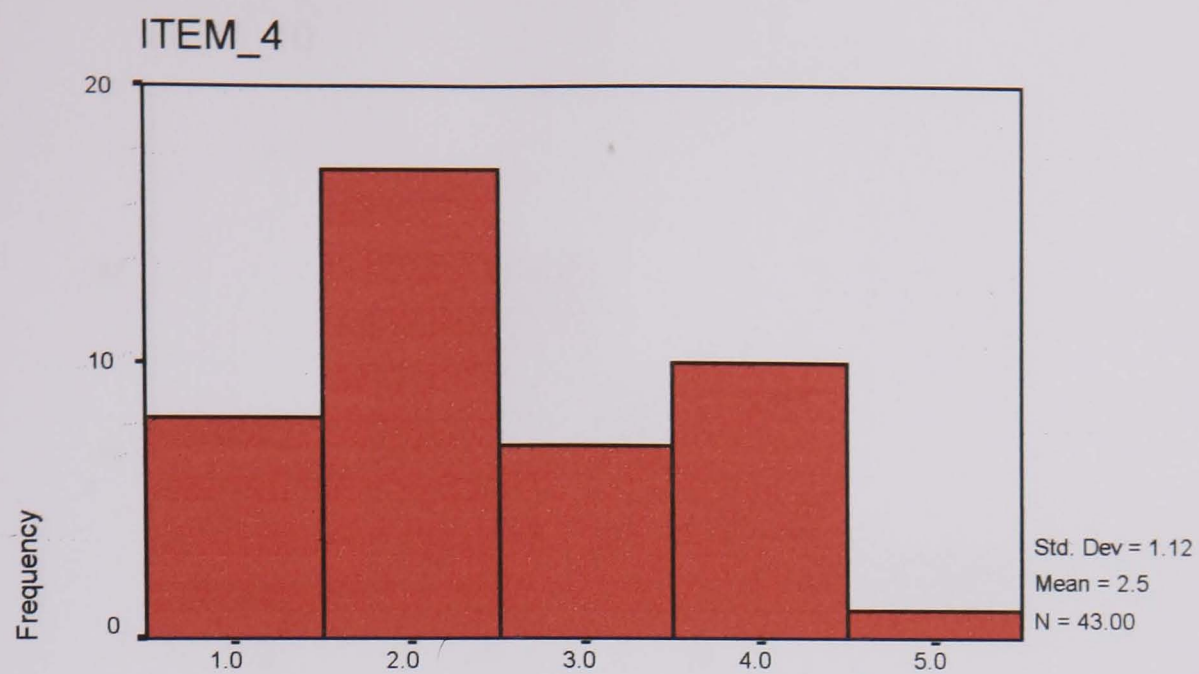
Table Caption

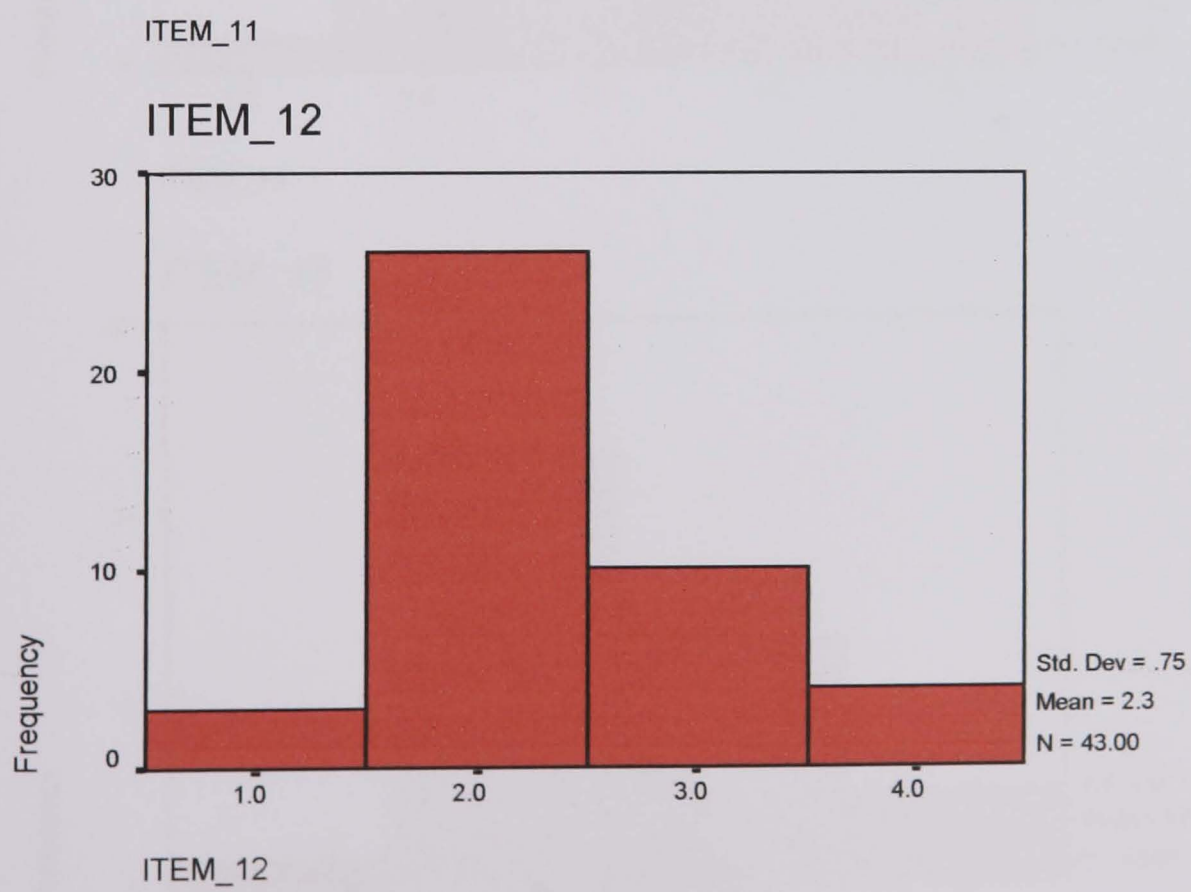
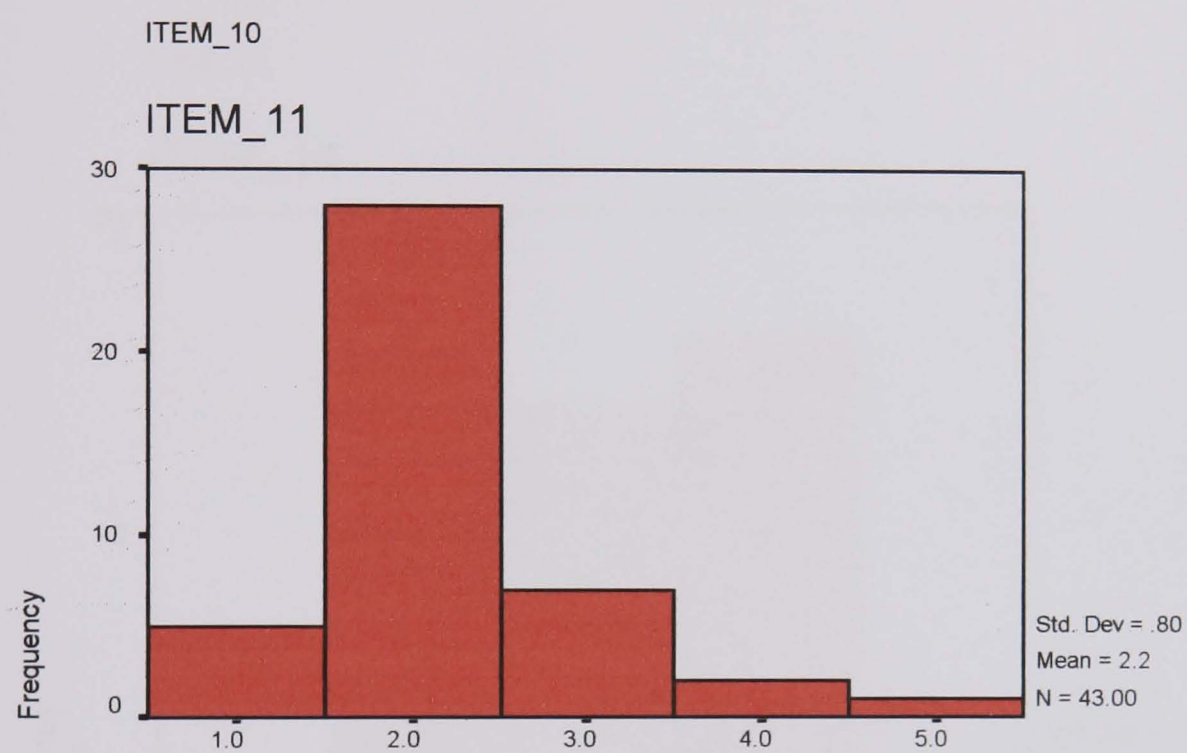
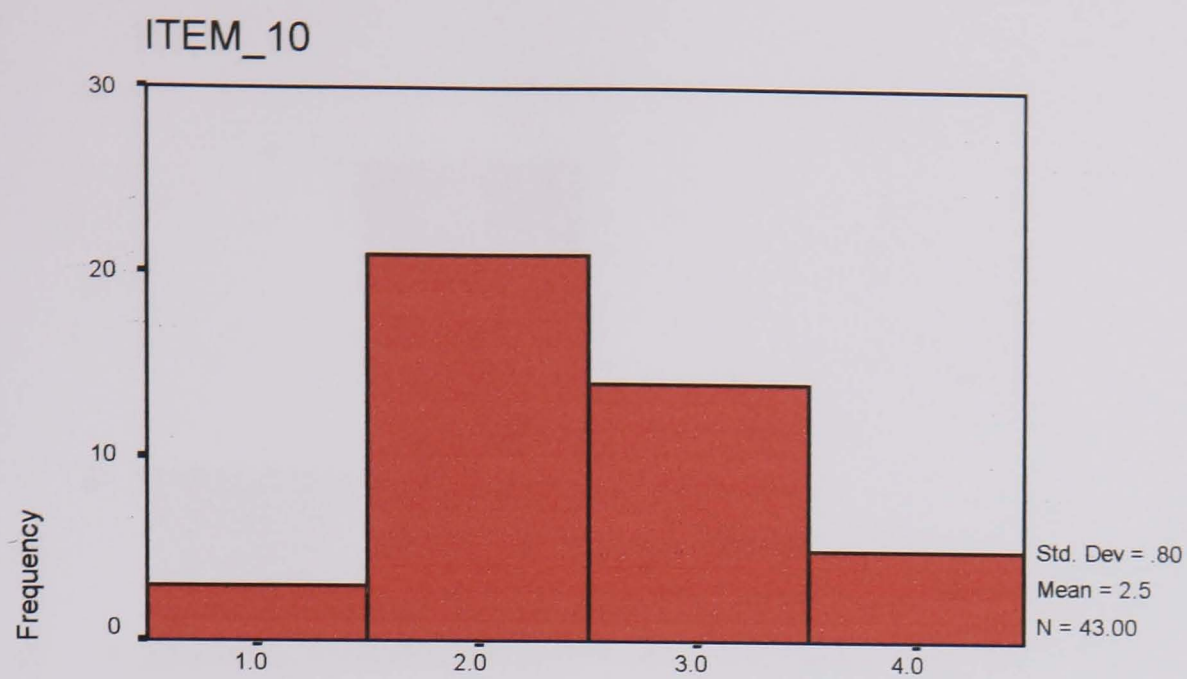
- *. Correlation is significant at the 0.05 level (2-tailed).
- **. Correlation is significant at the 0.01 level (2-tailed).

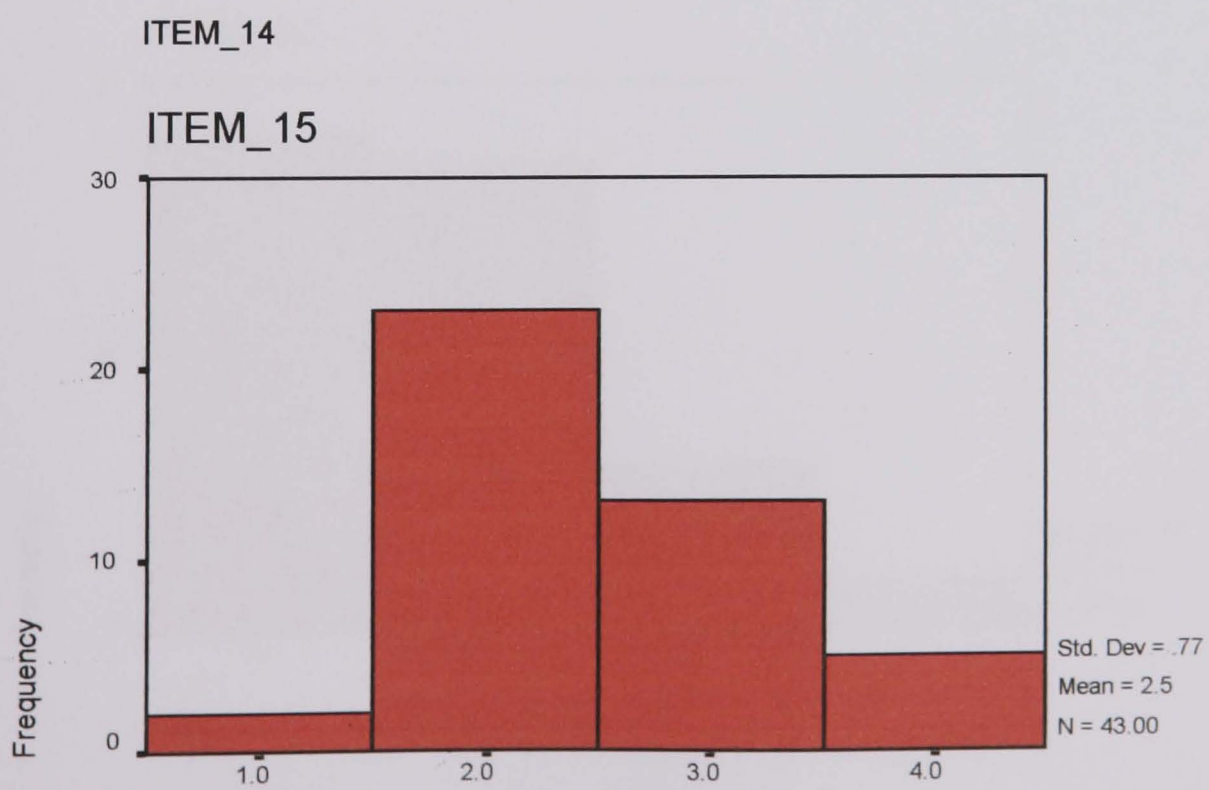
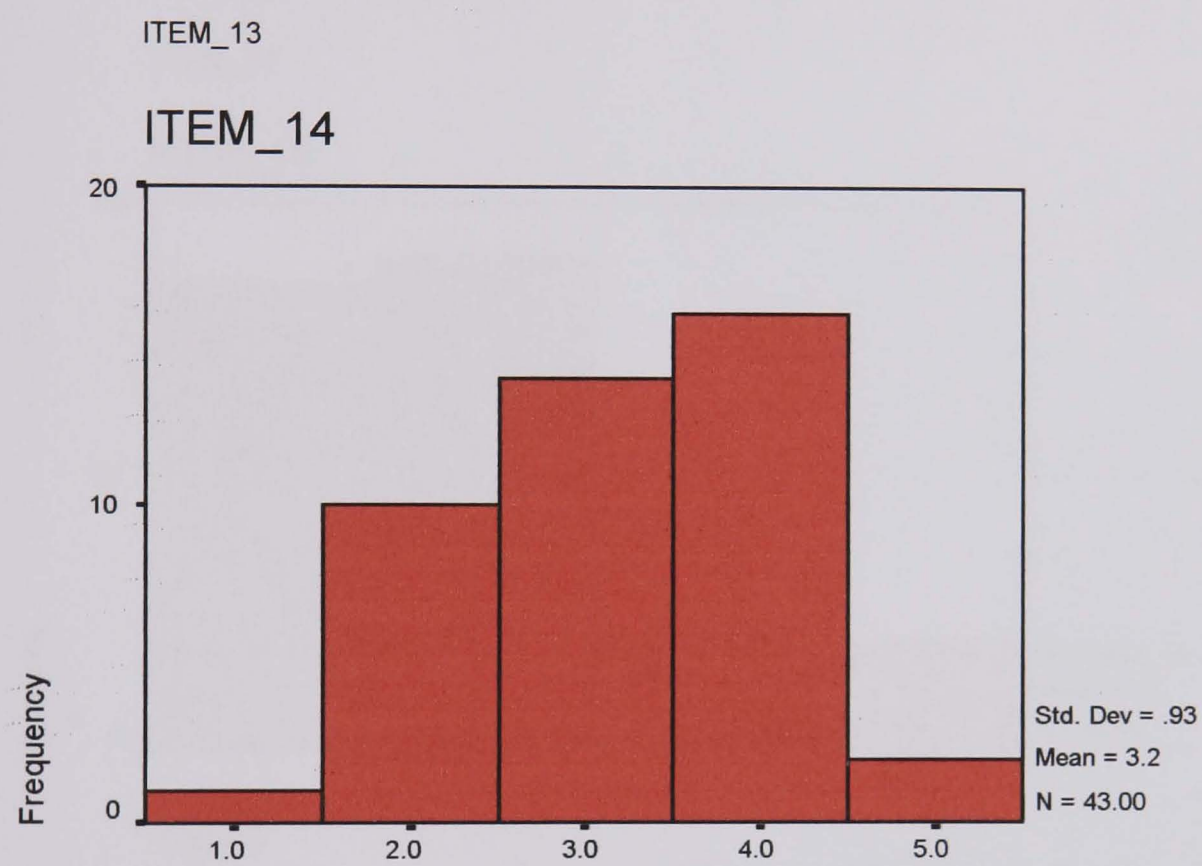
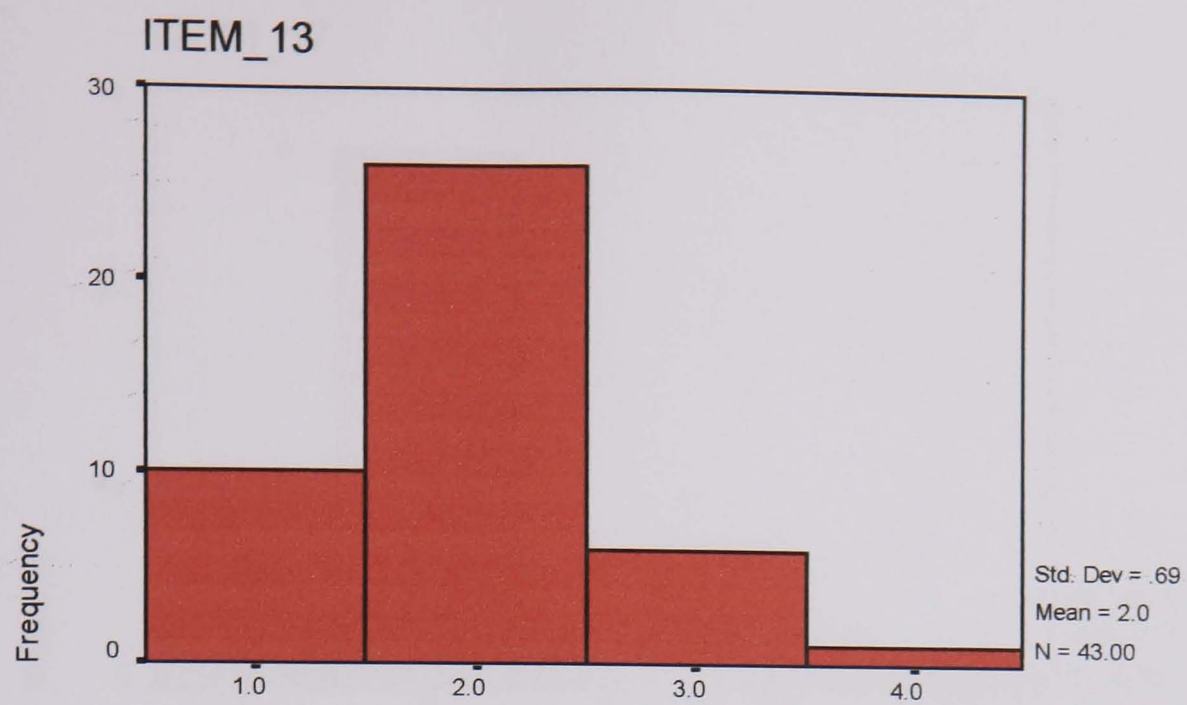
APPENDIX 7

HISTOGRAMS OF THE 16 ITEMS

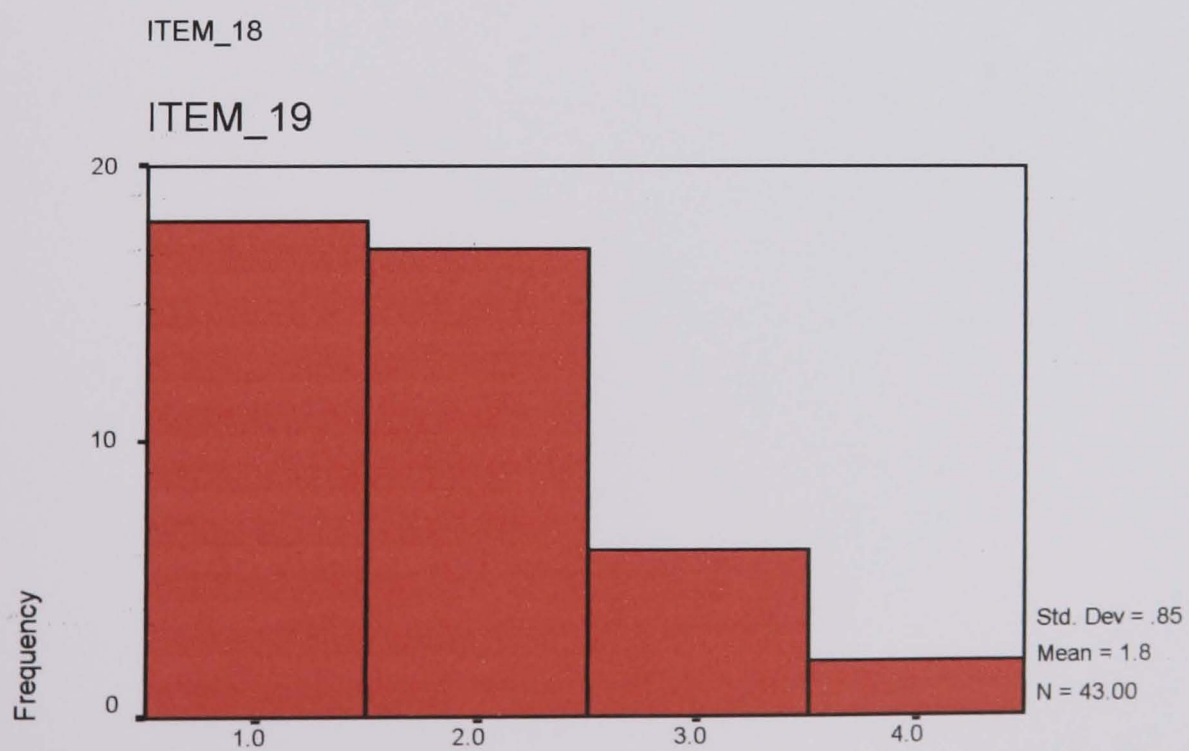
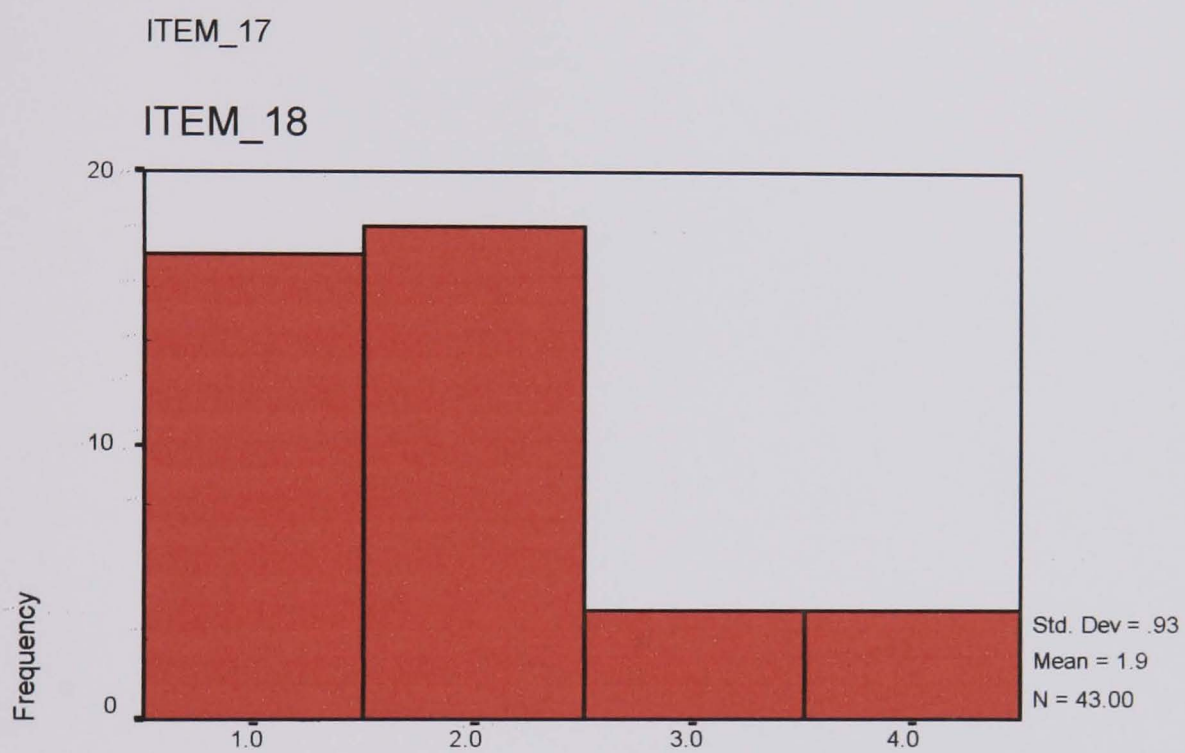
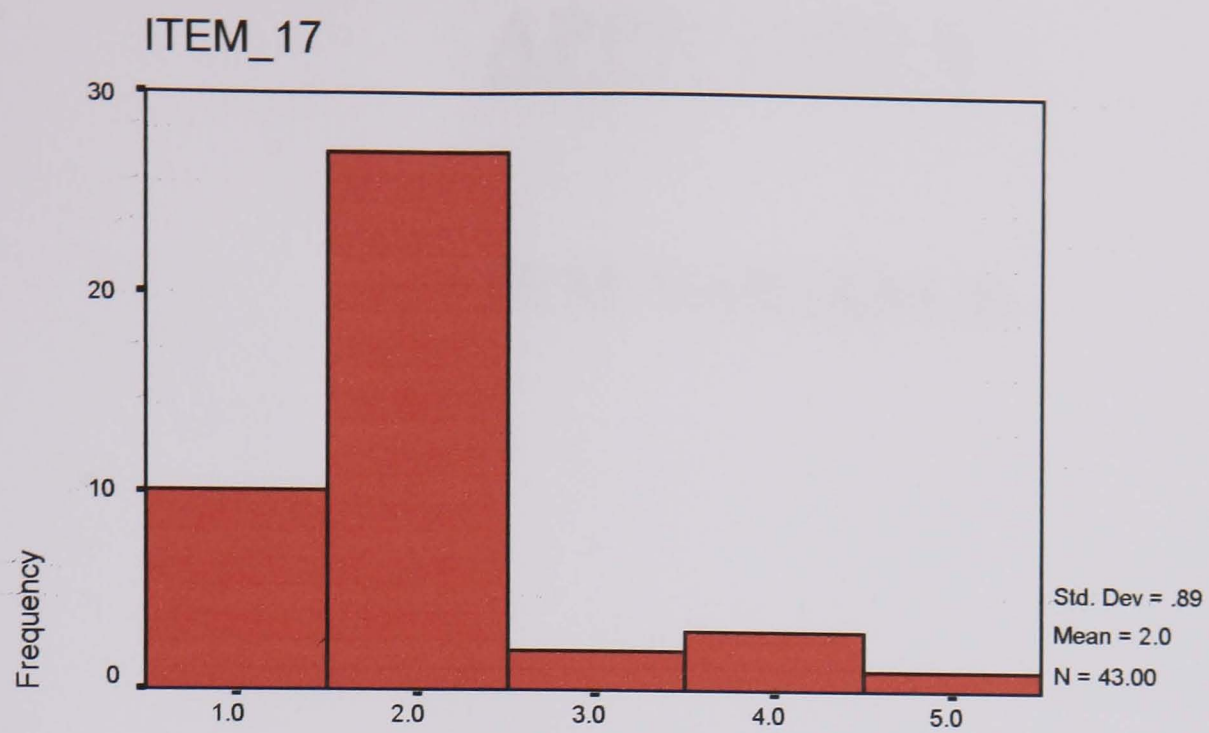








ITEM_15



ITEM_19

APPENDIX 8

ITEM VARIANCE

Descriptive Statistics

	N	Minimum	Maximum	Variance
ITEM_1	43	1	4	.629
ITEM_2	43	1	5	1.225
ITEM_3	43	1	5	.965
ITEM_4	43	1	5	1.256
ITEM_5	43	1	5	1.168
ITEM_6	43	1	4	.762
ITEM_7	43	1	4	.583
ITEM_8	43	1	4	.707
ITEM_9	43	1	5	.756
ITEM_10	43	1	4	.637
ITEM_11	43	1	5	.646
ITEM_12	43	1	4	.566
ITEM_13	43	1	4	.474
ITEM_14	43	1	5	.869
ITEM_15	43	1	4	.589
ITEM_16	43	1	5	.867
ITEM_17	43	1	5	.785
ITEM_18	43	1	4	.867
ITEM_19	43	1	4	.726
Valid N (listwise)	43			

*Please note that only the last column, which contains the variance for each item, is useful for the results.

APPENDIX 9

CO-EFFICIENT ALPHA FOR 19 AND 16 ITEMS

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
ITEM_1	41.1395	56.7420	.3798	.7892
ITEM_2	40.9302	56.4474	.2548	.7990
ITEM_3	41.0698	53.7331	.5009	.7807
ITEM_4	40.7442	55.2425	.3248	.7939
ITEM_5	40.9535	51.4264	.6008	.7725
ITEM_6	41.2558	63.6711	-.1812	.8208
ITEM_7	40.8372	61.1872	.0117	.8080
ITEM_8	41.0233	53.6423	.6140	.7752
ITEM_9	40.6047	54.3876	.5274	.7800
ITEM_10	40.7674	56.2780	.4172	.7872
ITEM_11	41.0465	56.1883	.4213	.7869
ITEM_12	40.9070	55.4673	.5244	.7818
ITEM_13	41.3023	58.3112	.2971	.7937
ITEM_14	40.0698	56.6855	.3101	.7935
ITEM_15	40.7674	55.0399	.5514	.7801
ITEM_16	41.1395	58.7896	.1577	.8029
ITEM_17	41.2326	52.1351	.7025	.7686
ITEM_18	41.3721	57.0963	.2804	.7953
ITEM_19	41.4419	55.0620	.4839	.7829

Reliability Coefficients

N of Cases = 43.0

N of Items = 19

Alpha = .7985

*** Please note that this is the Co-efficient Alpha for all 19 items.**

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
ITEM_1	34.6047	54.7685	.3609	.8321
ITEM_2	34.3953	53.6733	.2921	.8391
ITEM_3	34.5349	51.6833	.4948	.8247
ITEM_4	34.2093	52.4551	.3649	.8343
ITEM_5	34.4186	49.2492	.6075	.8170
ITEM_8	34.4884	51.7320	.5951	.8196
ITEM_9	34.0698	52.0664	.5427	.8223
ITEM_10	34.2326	54.0399	.4226	.8290
ITEM_11	34.5116	54.1130	.4125	.8295
ITEM_12	34.3721	53.2868	.5265	.8241
ITEM_13	34.7674	56.2303	.2838	.8353
ITEM_14	33.5349	54.2071	.3320	.8343
ITEM_15	34.2326	52.4684	.5915	.8208
ITEM_17	34.6977	50.2159	.6875	.8137
ITEM_18	34.8372	54.9014	.2802	.8373
ITEM_19	34.9070	52.6578	.5053	.8244

Reliability Coefficients

N of Cases = 43.0

N of Items = 16

Alpha = .8366

***Please note that this Co-efficient Alpha is for the 16 items.**

APPENDIX 10

**TABLE WITH EXPERTS DIVIDED IN THREE
CATEGORIES**

No.	TYPE*	ITEMS																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Industry	2	4	2	2	2	2	2	2	2	3	2	2	1	2	2	2	2	2	2
2	Industry	1	2	1	1	2	2	3	2	3	2	2	1	1	2	2	1	2	2	2
3	Industry	2	4	2	2	4	1	1	3	2	2	2	2	2	3	3	2	2	2	2
4	Industry	2	2	4	4	3	1	2	4	4	3	2	4	3	4	4	2	3	2	3
5	Academics	3	2	4	3	2	1	2	2	4	4	2	2	2	4	2	2	2	2	2
6	Industry	2	4	2	4	2	2	2	2	2	2	2	2	2	4	2	2	4	2	2
7	Industry	3	3	3	2	4	2	3	3	3	3	2	3	3	4	2	3	2	3	3
8	Industry	2	2	3	2	2	1	3	2	3	3	3	2	2	4	3	2	1	2	2
9	Industry	2	1	1	1	1	2	2	2	2	2	3	3	2	4	3	3	2	1	1
10	99**	1	2	3	3	2	2	1	2	2	2	2	2	2	4	3	5	2	1	1
11	Government/Journalists	2	5	5	5	5	1	3	3	5	3	2	3	2	4	4	3	5	3	4
12	Industry	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
13	Industry	2	2	3	4	3	2	2	2	2	2	2	3	2	3	3	2	2	2	1
14	Government/Journalists	4	2	2	2	4	1	1	4	4	4	4	3	2	5	4	4	2	1	1
15	Government	4	4	2	4	1	2	2	2	2	4	2	2	2	2	2	2	2	2	2
16	Government	1	2	2	2	4	4	2	4	2	2	2	2	2	4	2	2	2	2	2
17	Government	3	2	2	2	1	1	3	2	2	2	2	2	1	2	2	2	2	2	2
18	Industry	3	2	2	3	2	2	3	3	3	2	3	2	3	3	2	3	2	1	1
19	Industry	1	2	2	2	1	2	2	1	3	3	3	2	2	1	2	3	2	1	2
20	Industry	1	1	1	1	2	2	3	2	3	3	2	2	2	3	2	3	2	1	1
21	Industry	2	1	1	4	2	1	3	1	2	2	1	2	4	4	2	1	1	1	1
22	Academics	2	2	2	3	2	4	3	2	4	2	2	2	1	2	1	2	2	2	1
23	Academics	2	2	2	4	1	1	2	1	2	2	2	2	2	2	3	1	1	4	1
24	Academics	2	2	2	4	2	1	3	2	2	2	1	1	1	4	2	1	1	4	1
25	Academics	1	2	1	3	2	2	2	2	3	3	1	1	3	3	3	1	2	3	2
26	Academics	2	1	1	2	1	2	3	2	1	1	1	2	1	3	2	4	1	1	1
27	Industry	2	1	2	1	1	3	2	1	3	1	2	2	1	4	2	1	1	1	1
28	Industry	2	1	2	1	1	3	2	1	3	1	2	2	1	4	2	1	2	1	1
29	Industry	2	1	2	2	3	3	3	2	2	3	1	2	2	3	3	2	1	1	1
30	Industry	3	4	2	2	1	4	2	2	2	2	2	2	2	2	2	2	2	2	2
31	Industry	2	4	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	2	1
32	Government	2	4	1	2	2	2	3	2	4	4	2	2	2	3	3	1	1	1	2
33	Government	2	3	3	2	2	2	3	2	2	2	2	3	2	3	3	2	2	2	2
34	Government	1	2	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	1	1
35	Academics	2	1	3	2	2	1	3	4	3	2	2	3	2	3	2	2	2	2	3
36	Academics	2	2	4	2	2	2	2	1	2	3	2	3	2	4	3	3	2	1	1
37	Industry	2	2	3	3	2	2	4	2	2	2	3	2	2	3	2	2	2	4	3
38	Industry	2	3	3	4	4	2	2	2	3	2	2	2	2	3	2	3	2	2	2
39	Industry	4	1	1	1	4	4	4	4	4	4	4	4	3	3	4	1	4	4	2
40	Industry	3	4	2	2	1	2	2	2	2	3	2	4	1	4	3	2	2	1	1
41	Industry	2	3	2	4	4	1	1	3	4	2	5	4	1	5	4	2	4	1	3
42	Industry	2	2	3	4	2	2	4	2	2	3	3	2	2	4	2	2	2	2	2
43	99	1	1	1	1	3	2	2	2	2	3	2	3	2	2	1	1	1	1	4
TOTAL		91	100	94	108	99	86	104	96	114	107	95	101	84	137	107	91	87	81	78
MEAN		2.1	2.3	2.2	2.5	2.3	2	2.4	2.2	2.7	2.5	2.2	2.3	2	3.2	2.5	2.1	2	1.9	1.8

* Type refers to the occupation of the experts. Please note that in this table the type of government experts has merged with the journalists experts.

** 99 refers to the missing values

APPENDIX 11

HOMOGENEITY OF VARIANCE BETWEEN-SUBJECTS

Test of Homogeneity of Variances For Between-Subjects

TOTAL

Levene Statistic	df1	df2	Sig.
1.077	2	38	.351

APPENDIX 12

TEST OF NORMALITY

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TOTAL	.151	43	.015	.936	43	.019

a. Lilliefors Significance Correction

APPENDIX 13

ONE-WAY ANOVA BETWEEN-SUBJECTS

Oneway

Descriptives

		N	Mean	Std. Deviation	Std. Error
ITEM_1	Industry	25	2.16	.688	.138
	Academic	8	2.00	.535	.189
	Government/Journalists	8	2.38	1.188	.420
	Total	41	2.17	.771	.120
ITEM_2	Industry	25	2.36	1.150	.230
	Academic	8	1.75	.463	.164
	Government/Journalists	8	3.00	1.195	.423
	Total	41	2.37	1.113	.174
ITEM_3	Industry	25	2.12	.833	.167
	Academic	8	2.38	1.188	.420
	Government/Journalists	8	2.25	1.282	.453
	Total	41	2.20	.980	.153
ITEM_4	Industry	25	2.40	1.190	.238
	Academic	8	2.88	.835	.295
	Government/Journalists	8	2.63	1.188	.420
	Total	41	2.54	1.120	.175
ITEM_5	Industry	25	2.32	1.069	.214
	Academic	8	1.75	.463	.164
	Government/Journalists	8	2.75	1.488	.526
	Total	41	2.29	1.101	.172
ITEM_8	Industry	25	2.20	.816	.163
	Academic	8	2.00	.926	.327
	Government/Journalists	8	2.63	.916	.324
	Total	41	2.24	.860	.134
ITEM_9	Industry	25	2.64	.700	.140
	Academic	8	2.63	1.061	.375
	Government/Journalists	8	2.88	1.246	.441
	Total	41	2.68	.879	.137
ITEM_10	Industry	25	2.40	.707	.141
	Academic	8	2.38	.916	.324
	Government/Journalists	8	2.88	.991	.350
	Total	41	2.49	.810	.127
ITEM_11	Industry	25	2.40	.866	.173
	Academic	8	1.63	.518	.183
	Government/Journalists	8	2.25	.707	.250
	Total	41	2.22	.822	.128
ITEM_12	Industry	25	2.44	.821	.164
	Academic	8	2.00	.756	.267
	Government/Journalists	8	2.38	.518	.183
	Total	41	2.34	.762	.119
ITEM_13	Industry	25	2.04	.790	.158
	Academic	8	1.75	.707	.250
	Government/Journalists	8	1.88	.354	.125
	Total	41	1.95	.705	.110
ITEM_14	Industry	25	3.24	.926	.185
	Academic	8	3.13	.835	.295
	Government/Journalists	8	3.13	1.126	.398
	Total	41	3.20	.928	.145

Descriptives

		N	Mean	Std. Deviation	Std. Error
ITEM_15	Industry	25	2.52	.714	.143
	Academic	8	2.25	.707	.250
	Government/Journalists	8	2.75	.886	.313
	Total	41	2.51	.746	.116
ITEM_17	Industry	25	2.12	.881	.176
	Academic	8	1.63	.518	.183
	Government/Journalists	8	2.25	1.165	.412
	Total	41	2.05	.893	.139
ITEM_18	Industry	25	1.84	.898	.180
	Academic	8	2.38	1.188	.420
	Government/Journalists	8	1.75	.707	.250
	Total	41	1.93	.932	.146
ITEM_19	Industry	25	1.80	.764	.153
	Academic	8	1.50	.756	.267
	Government/Journalists	8	2.00	.926	.327
	Total	41	1.78	.791	.124

Descriptives

		95% Confidence Interval for Mean	
		Lower Bound	Upper Bound
ITEM_1	Industry	1.88	2.44
	Academic	1.55	2.45
	Government/Journalists	1.38	3.37
	Total	1.93	2.41
ITEM_2	Industry	1.89	2.83
	Academic	1.36	2.14
	Government/Journalists	2.00	4.00
	Total	2.01	2.72
ITEM_3	Industry	1.78	2.46
	Academic	1.38	3.37
	Government/Journalists	1.18	3.32
	Total	1.89	2.50
ITEM_4	Industry	1.91	2.89
	Academic	2.18	3.57
	Government/Journalists	1.63	3.62
	Total	2.18	2.89
ITEM_5	Industry	1.88	2.76
	Academic	1.36	2.14
	Government/Journalists	1.51	3.99
	Total	1.95	2.64
ITEM_8	Industry	1.86	2.54
	Academic	1.23	2.77
	Government/Journalists	1.86	3.39
	Total	1.97	2.52
ITEM_9	Industry	2.35	2.93
	Academic	1.74	3.51
	Government/Journalists	1.83	3.92
	Total	2.41	2.96
ITEM_10	Industry	2.11	2.69
	Academic	1.61	3.14
	Government/Journalists	2.05	3.70
	Total	2.23	2.74
ITEM_11	Industry	2.04	2.76
	Academic	1.19	2.06
	Government/Journalists	1.66	2.84
	Total	1.96	2.48
ITEM_12	Industry	2.10	2.78
	Academic	1.37	2.63
	Government/Journalists	1.94	2.81
	Total	2.10	2.58
ITEM_13	Industry	1.71	2.37
	Academic	1.16	2.34
	Government/Journalists	1.58	2.17
	Total	1.73	2.17
ITEM_14	Industry	2.86	3.62
	Academic	2.43	3.82
	Government/Journalists	2.18	4.07
	Total	2.90	3.49

Descriptives

		95% Confidence Interval for Mean	
		Lower Bound	Upper Bound
ITEM_15	Industry	2.23	2.81
	Academic	1.66	2.84
	Government/Journalists	2.01	3.49
	Total	2.28	2.75
ITEM_17	Industry	1.76	2.48
	Academic	1.19	2.06
	Government/Journalists	1.28	3.22
	Total	1.77	2.33
ITEM_18	Industry	1.47	2.21
	Academic	1.38	3.37
	Government/Journalists	1.16	2.34
	Total	1.63	2.22
ITEM_19	Industry	1.48	2.12
	Academic	.87	2.13
	Government/Journalists	1.23	2.77
	Total	1.53	2.03

Descriptives

		Minimum	Maximum
ITEM_1	Industry	1	4
	Academic	1	3
	Government/Journalists	1	4
	Total	1	4
ITEM_2	Industry	1	4
	Academic	1	2
	Government/Journalists	2	5
	Total	1	5
ITEM_3	Industry	1	4
	Academic	1	4
	Government/Journalists	1	5
	Total	1	5
ITEM_4	Industry	1	4
	Academic	2	4
	Government/Journalists	2	5
	Total	1	5
ITEM_5	Industry	1	4
	Academic	1	2
	Government/Journalists	1	5
	Total	1	5
ITEM_8	Industry	1	4
	Academic	1	4
	Government/Journalists	2	4
	Total	1	4
ITEM_9	Industry	2	4
	Academic	1	4
	Government/Journalists	2	5
	Total	1	5
ITEM_10	Industry	1	4
	Academic	1	4
	Government/Journalists	2	4
	Total	1	4
ITEM_11	Industry	1	5
	Academic	1	2
	Government/Journalists	2	4
	Total	1	5
ITEM_12	Industry	1	4
	Academic	1	3
	Government/Journalists	2	3
	Total	1	4
ITEM_13	Industry	1	4
	Academic	1	3
	Government/Journalists	1	2
	Total	1	4
ITEM_14	Industry	1	5
	Academic	2	4
	Government/Journalists	2	5
	Total	1	5

Descriptives

		Minimum	Maximum
ITEM_15	Industry	2	4
	Academic	1	3
	Government/Journalists	2	4
	Total	1	4
ITEM_17	Industry	1	4
	Academic	1	2
	Government/Journalists	1	5
	Total	1	5
ITEM_18	Industry	1	4
	Academic	1	4
	Government/Journalists	1	3
	Total	1	4
ITEM_19	Industry	1	3
	Academic	1	3
	Government/Journalists	1	4
	Total	1	4

ONE-WAY ANOVA BETWEEN-SUBJECTS TOTAL

TOTAL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	132.402	2	66.201	1.086	.348
Within Groups	2317.500	38	60.987		
Total	2449.902	40			

APPENDIX 14

HOMOGENEITY OF VARIANCE WITHIN-SUBJECTS

Mauchly's Test of Sphericity^b

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^a		
					Greenhous e-Geisser	Huynh-Feldt	Lower-bound
ITEM	.016	152.750	119	.025	.648	.860	.067

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b.

Design: Intercept

Within Subjects Design: ITEM

APPENDIX 15

GREENHOUSE-GEISSER FORMULA

Mauchly's Test of Sphericity^b

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^a		
					Greenhous e-Geisser	Huynh-Feldt	Lower-bound
ITEM	.016	152.750	119	.025	.648	.860	.067

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b.

Design: Intercept
Within Subjects Design: ITEM

APPENDIX 16

ONE-WAY ANOVA WITHIN-SUBJECTS

Measure: MEASURE_1

ITEM	Dependent Variable
1	ITEM_1
2	ITEM_2
3	ITEM_3
4	ITEM_4
5	ITEM_5
6	ITEM_8
7	ITEM_9
8	ITEM_10
9	ITEM_11
10	ITEM_12
11	ITEM_13
12	ITEM_14
13	ITEM_15
14	ITEM_17
15	ITEM_18
16	ITEM_19

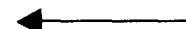
Descriptive Statistics

	Mean	Std. Deviation	N
ITEM_1	2.12	.793	43
ITEM_2	2.33	1.107	43
ITEM_3	2.19	.982	43
ITEM_4	2.51	1.121	43
ITEM_5	2.30	1.081	43
ITEM_8	2.23	.841	43
ITEM_9	2.65	.870	43
ITEM_10	2.49	.798	43
ITEM_11	2.21	.804	43
ITEM_12	2.35	.752	43
ITEM_13	1.95	.688	43
ITEM_14	3.19	.932	43
ITEM_15	2.49	.768	43
ITEM_17	2.02	.886	43
ITEM_18	1.88	.931	43
ITEM_19	1.81	.852	43

One-Way Anova Within-Subjects Results

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
ITEM	Sphericity Assumed	57.154	15	3.810	6.331	.000
	Greenhouse-Geisser	57.154	9.387	6.089	6.331	.000
	Huynh-Feldt	57.154	13.380	4.272	6.331	.000
	Lower-bound	57.154	1.000	57.154	6.331	.016
ITEM * TYPE	Sphericity Assumed	19.503	30	.650	1.080	.354
	Greenhouse-Geisser	19.503	18.773	1.039	1.080	.370
	Huynh-Feldt	19.503	26.761	.729	1.080	.359
	Lower-bound	19.503	2.000	9.752	1.080	.350
Error(ITEM)	Sphericity Assumed	343.036	570	.602		
	Greenhouse-Geisser	343.036	356.694	.962		
	Huynh-Feldt	343.036	508.450	.675		
	Lower-bound	343.036	38.000	9.027		



*Please note that the results of the one-way ANOVA within-subjects are presented in the last column of the first row where the arrow points.

APPENDIX 17

MIXED DESIGN ANOVA BETWEEN BOTH WITHIN-SUBJECTS AND BETWEEN-SUBJECTS

Within-Subjects Factors

Measure: MEASURE_1

ITEM	Dependent Variable
1	ITEM_1
2	ITEM_2
3	ITEM_3
4	ITEM_4
5	ITEM_5
6	ITEM_8
7	ITEM_9
8	ITEM_10
9	ITEM_11
10	ITEM_12
11	ITEM_13
12	ITEM_14
13	ITEM_15
14	ITEM_17
15	ITEM_18
16	ITEM_19

Between-Subjects Factors

		N
TYPE	1	25
	2	8
	3	8

*Please note that
1=industry experts
2=Academic experts
3=Government/Journalist

*Please note that the table below indicates the interaction between
the type of experts and the item means

	TYPE	Mean	Std. Deviation	
ITEM_1	1	2.16	.688	25
	2	2.00	.535	8
	3	2.38	1.188	8
	Total	2.17	.771	41
ITEM_2	1	2.36	1.150	25
	2	1.75	.463	8
	3	3.00	1.195	8
	Total	2.37	1.113	41
ITEM_3	1	2.12	.833	25
	2	2.38	1.188	8
	3	2.25	1.282	8
	Total	2.20	.980	41
ITEM_4	1	2.40	1.190	25
	2	2.88	.835	8
	3	2.63	1.188	8
	Total	2.54	1.120	41
ITEM_5	1	2.32	1.069	25
	2	1.75	.463	8
	3	2.75	1.488	8
	Total	2.29	1.101	41
ITEM_8	1	2.20	.816	25
	2	2.00	.926	8
	3	2.63	.916	8
	Total	2.24	.860	41
ITEM_9	1	2.64	.700	25
	2	2.62	1.061	8
	3	2.88	1.246	8
	Total	2.68	.879	41
ITEM_10	1	2.40	.707	25
	2	2.38	.916	8
	3	2.88	.991	8
	Total	2.49	.810	41
ITEM_11	1	2.40	.866	25
	2	1.63	.518	8
	3	2.25	.707	8
	Total	2.22	.822	41
ITEM_12	1	2.44	.821	25
	2	2.00	.756	8
	3	2.38	.518	8
	Total	2.34	.762	41
ITEM_13	1	2.04	.790	25
	2	1.75	.707	8
	3	1.87	.354	8
	Total	1.95	.705	41
ITEM_14	1	3.24	.926	25
	2	3.13	.835	8
	3	3.13	1.126	8
	Total	3.20	.928	41
ITEM_15	1	2.52	.714	25
	2	2.25	.707	8
	3	2.75	.886	8
	Total	2.51	.746	41
ITEM_17	1	2.12	.881	25
	2	1.63	.518	8
	3	2.25	1.165	8
	Total	2.05	.893	41
ITEM_18	1	1.84	.898	25
	2	2.38	1.188	8
	3	1.75	.707	8
	Total	1.93	.932	41
ITEM_19	1	1.80	.764	25
	2	1.50	.756	8
	3	2.00	.926	8
	Total	1.78	.791	41

Homogeneity of variance for both Between-subject and Within-subject

Mauchly's Test of Sphericity^b

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^a		
					Greenhous e-Geisser	Huynh-Feldt	Lower-bound
ITEM	.009	155.847	119	.017	.626	.892	.067

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b.

Design: Intercept+TYPE

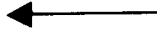
Within Subjects Design: ITEM

*Please note that since the level of Significance is lower than 0.05, the Greenhouse-Geisser formula would be applied. In this case this formula indicates that the number obtained is over 0.05 and that means that we can move on conducting one-way mixed design ANOVA.

Mixed Design ANOVA of Between-Subjects and Within-Subjects Results

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
ITEM	Sphericity Assumed	57.154	15	3.810	6.331	.000
	Greenhouse-Geisser	57.154	9.387	6.089	6.331	.000
	Huynh-Feldt	57.154	13.380	4.272	6.331	.000
	Lower-bound	57.154	1.000	57.154	6.331	.016
ITEM * TYPE	Sphericity Assumed	19.503	30	.650	1.080	.354
	Greenhouse-Geisser	19.503	18.773	1.039	1.080	.370
	Huynh-Feldt	19.503	26.761	.729	1.080	.359
	Lower-bound	19.503	2.000	9.752	1.080	.350
Error(ITEM)	Sphericity Assumed	343.036	570	.602		
	Greenhouse-Geisser	343.036	356.694	.962		
	Huynh-Feldt	343.036	508.450	.675		
	Lower-bound	343.036	38.000	9.027		



*Please note that the Significance level of **.354** is indicating if there is any interaction between the within-subjects and between-subjects.

APPENDIX 18

**TABLE PRESENTING THE EXPERTS DIVIDED
INTO TWO GROUPS**

No.	TYPE*	ITEMS																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Industry	2	4	2	2	2	2	2	2	2	3	2	2	1	2	2	2	2	2	2
2	Industry	1	2	1	1	2	2	3	2	3	2	2	1	1	2	2	1	2	2	2
3	Industry	2	4	2	2	4	1	1	3	2	2	2	2	2	3	3	2	2	2	2
4	Industry	2	2	4	4	3	1	2	4	4	3	2	4	3	4	4	2	3	2	3
5	Non-Industry	3	2	4	3	2	1	2	2	4	4	2	2	2	4	2	2	2	2	2
6	Industry	2	4	2	4	2	2	2	2	2	2	2	2	2	4	2	2	4	2	2
7	Industry	3	3	3	2	4	2	3	3	3	3	2	3	3	4	2	3	2	3	3
8	Industry	2	2	3	2	2	1	3	2	3	3	3	2	2	4	3	2	1	2	2
9	Industry	2	1	1	1	1	2	2	2	2	2	3	3	2	4	3	3	2	1	1
10	99**	1	2	3	3	2	2	1	2	2	2	2	2	2	4	3	5	2	1	1
11	Non-Industry	2	5	5	5	5	1	3	3	5	3	2	3	2	4	4	3	5	3	4
12	Industry	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
13	Industry	2	2	3	4	3	2	2	2	2	2	2	3	2	3	3	2	2	2	1
14	Non-Industry	4	2	2	2	4	1	1	4	4	4	4	3	2	5	4	4	2	1	1
15	Non-Industry	4	4	2	4	1	2	2	2	2	4	2	2	2	2	2	2	2	2	2
16	Non-Industry	1	2	2	2	4	4	2	4	2	2	2	2	2	4	2	2	2	2	2
17	Non-Industry	3	2	2	2	1	1	3	2	2	2	2	2	1	2	2	2	2	2	2
18	Industry	3	2	2	3	2	2	3	3	3	2	3	2	3	3	2	3	2	1	1
19	Industry	1	2	2	2	1	2	2	1	3	3	3	2	2	1	2	3	2	1	2
20	Industry	1	1	1	1	2	2	3	2	3	3	2	2	2	3	2	3	2	1	1
21	Industry	2	1	1	4	2	1	3	1	2	2	1	2	4	4	2	1	1	1	1
22	Non-Industry	2	2	2	3	2	4	3	2	4	2	2	2	1	2	1	2	2	2	1
23	Non-Industry	2	2	2	4	1	1	2	1	2	2	2	2	2	2	3	1	1	4	1
24	Non-Industry	2	2	2	4	2	1	3	2	2	2	1	1	1	4	2	1	1	4	1
25	Non-Industry	1	2	1	3	2	2	2	2	3	3	1	1	3	3	3	1	2	3	2
26	Non-Industry	2	1	1	2	1	2	3	2	1	1	1	2	1	3	2	4	1	1	1
27	Industry	2	1	2	1	1	3	2	1	3	1	2	2	1	4	2	1	1	1	1
28	Industry	2	1	2	1	1	3	2	1	3	1	2	2	1	4	2	1	2	1	1
29	Industry	2	1	2	2	3	3	3	2	2	3	1	2	2	3	3	2	1	1	1
30	Industry	3	4	2	2	1	4	2	2	2	2	2	2	2	2	2	2	2	2	2
31	Industry	2	4	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	2	1
32	Non-Industry	2	4	1	2	2	2	3	2	4	4	2	2	2	3	3	1	1	1	2
33	Non-Industry	2	3	3	2	2	2	3	2	2	2	2	3	2	3	3	2	2	2	2
34	Non-Industry	1	2	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	1	1
35	Non-Industry	2	1	3	2	2	1	3	4	3	2	2	3	2	3	2	2	2	2	3
36	Non-Industry	2	2	4	2	2	2	2	1	2	3	2	3	2	4	3	3	2	1	1
37	Industry	2	2	3	3	2	2	4	2	2	2	3	2	2	3	2	2	2	4	3
38	Industry	2	3	3	4	4	2	2	2	3	2	2	2	2	3	2	3	2	2	2
39	Industry	4	1	1	1	4	4	4	4	4	4	4	4	3	3	4	1	4	4	2
40	Industry	3	4	2	2	1	2	2	2	2	3	2	4	1	4	3	2	2	1	1
41	Industry	2	3	2	4	4	1	1	3	4	2	5	4	1	5	4	2	4	1	3
42	Industry	2	2	3	4	2	2	4	2	2	3	3	2	2	4	2	2	2	2	2
43	99	1	1	1	1	3	2	2	2	2	3	2	3	2	2	1	1	1	1	4
TOTAL		91	100	94	108	99	86	104	96	114	107	95	101	84	137	107	91	87	81	78
MEAN		2.1	2.3	2.2	2.5	2.3	2	2.4	2.2	2.7	2.5	2.2	2.3	2	3.2	2.5	2.1	2	1.9	1.8

* Type refers to the occupation of the experts. Please note that in this table the type of government experts has merged with the journalists and the Academics experts and renamed as non-industry experts.

** 99 refers to the missing values

APPENDIX 19

t-TEST-LAVENE’S TEST TABLE

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
ITEM_1	Equal variances assumed Equal variances not assumed	1.029	.317
ITEM_2	Equal variances assumed Equal variances not assumed	.855	.361
ITEM_3	Equal variances assumed Equal variances not assumed	2.246	.142
ITEM_4	Equal variances assumed Equal variances not assumed	1.386	.246
ITEM_5	Equal variances assumed Equal variances not assumed	.005	.944
ITEM_8	Equal variances assumed Equal variances not assumed	.391	.535
ITEM_9	Equal variances assumed Equal variances not assumed	7.575	.009
ITEM_10	Equal variances assumed Equal variances not assumed	3.330	.076
ITEM_11	Equal variances assumed Equal variances not assumed	3.348	.075
ITEM_12	Equal variances assumed Equal variances not assumed	1.589	.215
ITEM_13	Equal variances assumed Equal variances not assumed	.729	.398
ITEM_14	Equal variances assumed Equal variances not assumed	.038	.846

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
ITEM_15	Equal variances assumed Equal variances not assumed	.310	.581
ITEM_17	Equal variances assumed Equal variances not assumed	.299	.587
ITEM_18	Equal variances assumed Equal variances not assumed	.056	.814
ITEM_19	Equal variances assumed Equal variances not assumed	.013	.911
TOTAL	Equal variances assumed Equal variances not assumed	.178	.676

APPENDIX 20

t-TEST-GROUP STATISTICS

Group Statistics

	TYPE	N	Mean	Std. Deviation	Std. Error Mean
ITEM_1	Industry	25	2.16	.688	.138
	Non-industry	16	2.19	.911	.228
ITEM_2	Industry	25	2.36	1.150	.230
	Non-industry	16	2.38	1.088	.272
ITEM_3	Industry	25	2.12	.833	.167
	Non-industry	16	2.31	1.195	.299
ITEM_4	Industry	25	2.40	1.190	.238
	Non-industry	16	2.75	1.000	.250
ITEM_5	Industry	25	2.32	1.069	.214
	Non-industry	16	2.25	1.183	.296
ITEM_8	Industry	25	2.20	.816	.163
	Non-industry	16	2.31	.946	.237
ITEM_9	Industry	25	2.64	.700	.140
	Non-industry	16	2.75	1.125	.281
ITEM_10	Industry	25	2.40	.707	.141
	Non-industry	16	2.63	.957	.239
ITEM_11	Industry	25	2.40	.866	.173
	Non-industry	16	1.94	.680	.170
ITEM_12	Industry	25	2.44	.821	.164
	Non-industry	16	2.19	.655	.164
ITEM_13	Industry	25	2.04	.790	.158
	Non-industry	16	1.81	.544	.136
ITEM_14	Industry	25	3.24	.926	.185
	Non-industry	16	3.13	.957	.239
ITEM_15	Industry	25	2.52	.714	.143
	Non-industry	16	2.50	.816	.204
ITEM_17	Industry	25	2.12	.881	.176
	Non-industry	16	1.94	.929	.232
ITEM_18	Industry	25	1.84	.898	.180
	Non-industry	16	2.06	.998	.249
ITEM_19	Industry	25	1.80	.764	.153
	Non-industry	16	1.75	.856	.214
TOTAL	Industry	25	37.0000	7.67029	1.53406
	Non-industry	16	36.8750	8.31765	2.07941

APPENDIX 21

t-TEST-EQUALITY OF MEANS TABLE

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
ITEM_1	Equal variances assumed	-.110	39	.913	-.03
	Equal variances not assumed	-.103	25.809	.918	-.03
ITEM_2	Equal variances assumed	-.042	39	.967	-.02
	Equal variances not assumed	-.042	33.447	.967	-.02
ITEM_3	Equal variances assumed	-.609	39	.546	-.19
	Equal variances not assumed	-.563	24.297	.579	-.19
ITEM_4	Equal variances assumed	-.975	39	.335	-.35
	Equal variances not assumed	-1.014	36.023	.317	-.35
ITEM_5	Equal variances assumed	.196	39	.845	.07
	Equal variances not assumed	.192	29.706	.849	.07
ITEM_8	Equal variances assumed	-.404	39	.688	-.11
	Equal variances not assumed	-.391	28.632	.698	-.11
ITEM_9	Equal variances assumed	-.387	39	.701	-.11
	Equal variances not assumed	-.350	22.485	.730	-.11
ITEM_10	Equal variances assumed	-.865	39	.392	-.23
	Equal variances not assumed	-.809	25.368	.426	-.23
ITEM_11	Equal variances assumed	1.807	39	.079	.46
	Equal variances not assumed	1.906	37.229	.064	.46
ITEM_12	Equal variances assumed	1.036	39	.307	.25
	Equal variances not assumed	1.089	36.958	.283	.25
ITEM_13	Equal variances assumed	1.008	39	.320	.23
	Equal variances not assumed	1.092	38.722	.282	.23
ITEM_14	Equal variances assumed	.383	39	.704	.12
	Equal variances not assumed	.380	31.309	.706	.12

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
ITEM_15	Equal variances assumed	.083	39	.934	.02
	Equal variances not assumed	.080	28.947	.937	.02
ITEM_17	Equal variances assumed	.633	39	.530	.18
	Equal variances not assumed	.626	30.864	.536	.18
ITEM_18	Equal variances assumed	-.741	39	.463	-.22
	Equal variances not assumed	-.724	29.610	.475	-.22
ITEM_19	Equal variances assumed	.195	39	.846	.05
	Equal variances not assumed	.190	29.398	.851	.05
TOTAL	Equal variances assumed	.049	39	.961	.1250
	Equal variances not assumed	.048	30.183	.962	.1250

Independent Samples Test

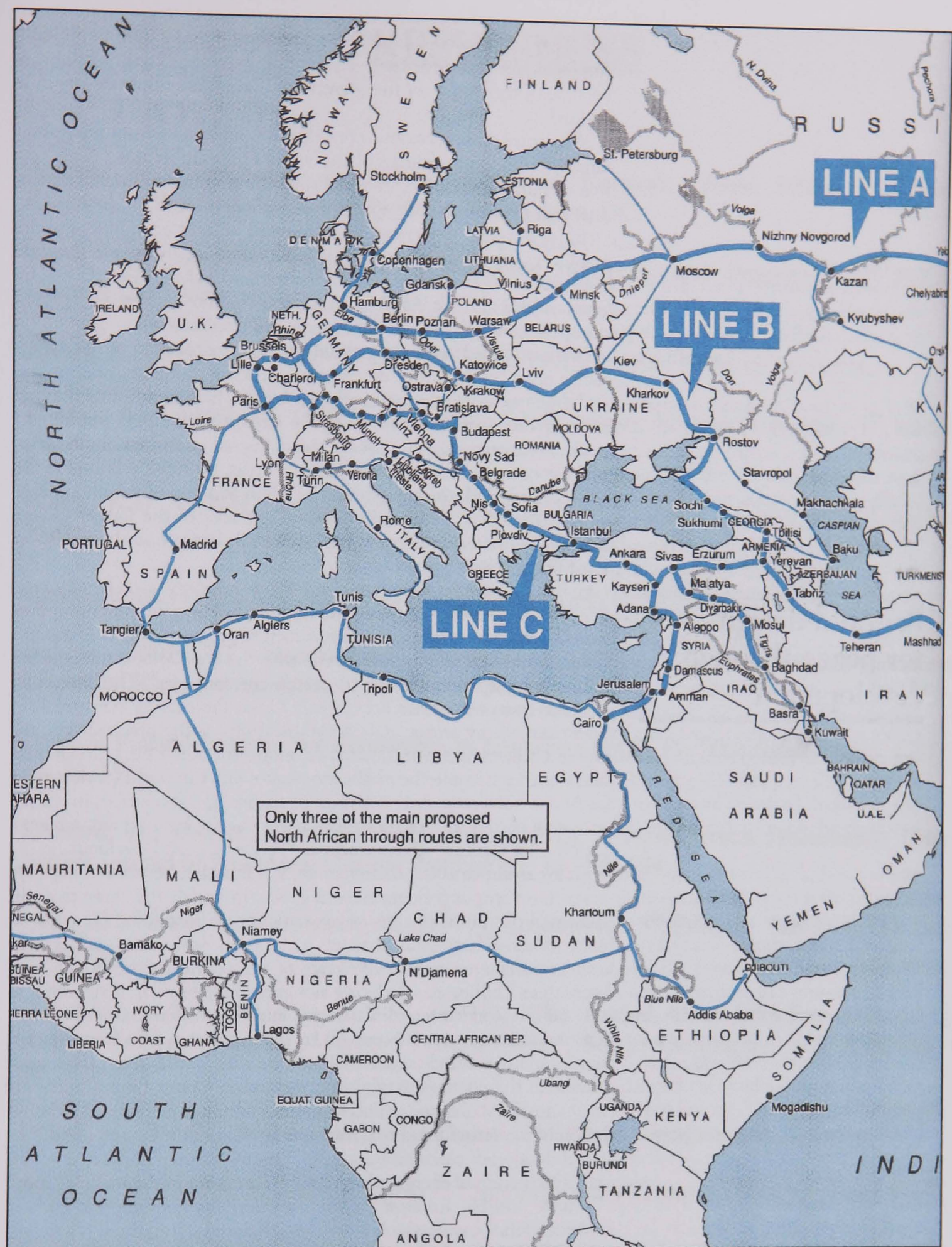
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
ITEM_1	Equal variances assumed	.250	-.533	.478
	Equal variances not assumed	.266	-.574	.519
ITEM_2	Equal variances assumed	.361	-.745	.715
	Equal variances not assumed	.356	-.739	.709
ITEM_3	Equal variances assumed	.316	-.832	.447
	Equal variances not assumed	.342	-.898	.513
ITEM_4	Equal variances assumed	.359	-1.076	.376
	Equal variances not assumed	.345	-1.050	.350
ITEM_5	Equal variances assumed	.357	-.652	.792
	Equal variances not assumed	.365	-.676	.816
ITEM_8	Equal variances assumed	.278	-.675	.450
	Equal variances not assumed	.288	-.701	.476
ITEM_9	Equal variances assumed	.284	-.685	.465
	Equal variances not assumed	.314	-.761	.541
ITEM_10	Equal variances assumed	.260	-.751	.301
	Equal variances not assumed	.278	-.797	.347
ITEM_11	Equal variances assumed	.256	-.055	.980
	Equal variances not assumed	.243	-.029	.954
ITEM_12	Equal variances assumed	.244	-.240	.745
	Equal variances not assumed	.232	-.217	.722
ITEM_13	Equal variances assumed	.226	-.229	.684
	Equal variances not assumed	.208	-.194	.649
ITEM_14	Equal variances assumed	.300	-.492	.722
	Equal variances not assumed	.303	-.502	.732

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
ITEM_15	Equal variances assumed	.242	-.469	.509
	Equal variances not assumed	.249	-.490	.530
ITEM_17	Equal variances assumed	.288	-.400	.765
	Equal variances not assumed	.292	-.412	.777
ITEM_18	Equal variances assumed	.300	-.830	.385
	Equal variances not assumed	.307	-.851	.406
ITEM_19	Equal variances assumed	.256	-.468	.568
	Equal variances not assumed	.263	-.488	.588
TOTAL	Equal variances assumed	2.53741	-5.00739	5.25739
	Equal variances not assumed	2.58405	-5.15098	5.40098

APPENDIX 22

MAP OF THE 3 MAIN EURO-ASIAN LINES



Source: Tennenbaum, J., (1997), 'The Eurasian Land-Bridge', Executive Intelligence Review, pp. 4, Published by EIR News Service Inc., Washington, USA.

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PUBLICATIONS



Oil and Containers in Transit through Lithuania

— Research in the United Kingdom

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The future for the logistics and maritime sector of Lithuania looks extremely promising in the context of a number of changes that have taken place in recent years and the developments which are planned for the coming decade. Lithuania has a tradition within the sector including a major international trucking industry, a significant transit port in Klaipeda with the great advantage of ice-free status, good road and rail links to the east and the enormous markets of Russia, Belarus and the other Baltic States, the prospect of EU membership and all the market advantages that this will bring in the next few years and last but not least, its strategic location between the EU and the countries of the Former Soviet Union which provide an opportunity for Lithuania to become the Netherlands of Central and Eastern Europe – a dynamic, fast growing and prosperous country acting as the pivotal point for trade within the region, far in excess of its physical size and population.

Lithuania's future role as the transit hub for the east and the link between the dynamic markets of Germany and Scandinavia and the growing significance of Russia and its neighbours has attracted attention in western Europe, not least at the University of Plymouth in the United Kingdom where the Institute of Marine Studies is the largest and most significant teaching and research institution concentrating on transport, shipping and logistics in Eastern and Central Europe. The research group consists of ten staff members plus a large group of researchers of which two are actively involved in research into logistics and transport in Lithuania at this time. These two projects are being undertaken by two young women from Lithuania and Greece, examining respectively the transit of cru-

de oil and the transit of containers by rail from Russia, central Asia and the Far East, both through Lithuanian outlets. The former project has attracted sponsorship from the European Union Phare fund whilst the latter has been funded by Lloyds of London. The quality of these sponsors reflects the seriousness with which the issues are considered within Europe and also the importance that the Lithuanian role in transit is considered. Both researchers graduated recently from the Institute in Plymouth in Maritime Business and Law and bring with them analytical (and linguistic) skills that are appropriate and notable.

Oil Transit through Lithuania

This project provides an economic analysis of the Lithuanian crude oil sector in the light of the period of transition following the break-up of the Former Soviet Union (FSU) and the moves being made towards European Union (EU) accession. Lithuania emerged from the FSU as one of the three independent Baltic States which under the old Soviet regime had always been significant as transit countries for both imports and exports to the USSR, offering ice-free access to the Baltic all year round. As a consequence, a large quantity of the USSR's international trade passed through the ports of Riga and Ventspils in Latvia and Klaipeda in Lithuania including substantial quantities of Soviet crude oil.

Following the break-up of the USSR, the economic and political situation for these oil movements has changed considerably and the newly independent Lithuania has inherited both a powerful position (in that Russia has only limited ice-free access to the Baltic from its own territory through the Kaliningrad enclave, which in turn is only accessible across Lithuanian territory), and a weak position in that its sole source of oil has always been Russia (and the FSU) and the infrastructure inherited (pipelines, refi-

neries, terminals etc) was all designed uni-directionally for this source of oil. Lithuania thus finds itself both reliant upon, and one of the few providers for, Russian crude oil. This in turn has highly significant economic consequences – for example, some 30% of Lithuania's GDP can be associated with the only oil products refinery in the Baltic States at Mazeikiai, but until very recently, this facility has been totally reliant upon Russian crude imports. In late 1999, these were interrupted by Russian suppliers during disputes over the refinery's ownership plans and its partial sale to US interests. As a consequence, since independence in 1991, crude oil trade in Lithuania has been fundamental both to the country's economic health and political stability.

As a consequence, the research project has the following objectives:

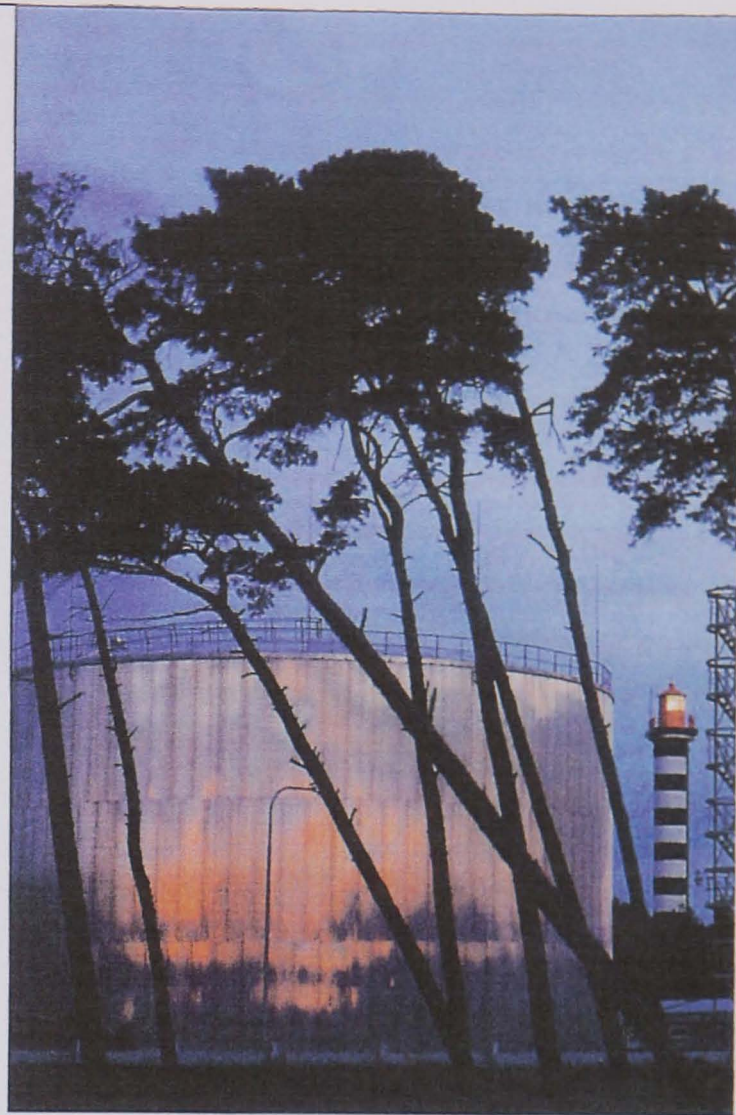
- to assess the impact in Lithuania, of the transition from Soviet control to independence, upon the crude oil sector;
- to assess the current pattern of crude oil movements and the nature of the infrastructure in Lithuania and its regional competitors;
- to analyse the current factors that dictate crude oil policy in Lithuania – economic, political

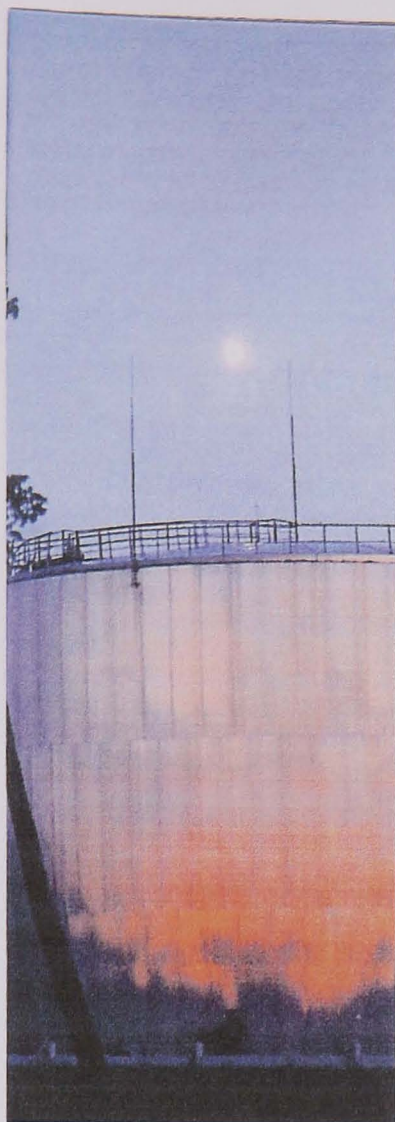
and operational;

- to derive the opinion of economic experts within the region as to the possibilities for future regional crude oil policies;
- to develop a model of the crude oil industry in the region derived from these opinions, which accommodates both the economic and political issues and which can provide guidance to policy-makers for the future;
- to examine the effect of EU accession upon this strategy and to provide guidance for economists in the Baltic States for strategies as accession approaches.

To achieve these objectives, the project consists of the following methodology;

- a review of the transition period from the late 1980s to the moves towards EU accession today, the flow of crude oil in the region and the infrastructural facilities that exist. This will be based upon a full literature review from sources in Lithuania, Latvia, Russia and the UK, plus research into sources within the industry;
- identification of the main influences upon the industry in Lithuania at present and in the years to come as EU accession approaches;
- an analysis of expert opinion in





the region from Lithuania, Latvia and Russia collected through direct interview of economists and industrialists using a structured survey;

- derivation of a set of crude oil strategies for Lithuania which will incorporate the economic, political and operational requirements and constraints that exist and will provide guidance to policy-makers as transition continues and EU accession approaches.

Oil sources and export points

Before transition, Lithuania's sole source of crude oil was the USSR much of which was located in Russian Siberia. A comprehensive pipeline system was developed over many years for the USSR oil export industry which focused upon three main directions - the Black Sea, the Druzhba Pipeline towards allies in Poland and the DDR and Western Europe, and the Baltic Sea and in particular the facilities at Ventspils (Latvia) for direct crude oil exports, and Mazeikių (Lithuania) as the only oil refining facility located in the Baltic States region.

The infrastructure that supported these facilities was designed solely for the use of Soviet crude which meant that upon indepen-

dence, Lithuania inherited a large refining facility that was the single largest generator of GDP in Lithuania by far and yet relied entirely upon Russian co-operation in providing piped imports of crude oil. This has been a continued problem for Lithuania, particularly since Russia has alternative outlets - not least Ventspils in neighbouring Latvia - and also their own refining facilities, thus negating any need to depend upon Lithuania and its demand. Much of what has happened in Lithuanian oil strategy since 1991 has been driven by this dependence upon Russia and this includes the development of new import/export facilities for crude oil and products at the Butinge oil boom on the Lithuanian coast which has provided some seriously desired, if expensive, flexibility.

EU accession

Since December 1999, Lithuania has been moving towards accession to the EU. Lithuania was disappointed by their failure to be included in the first wave of applicants following transition but now has the difficult task of meeting the economic requirements of the EU which include a number of issues that directly impact upon the oil industry. It is necessary in the context of this research, the emphasis placed upon the private sector and the subtle but definite stress upon moving away from Russian influence and more towards that of the west. These latter issues have had immediate impacts upon the relationship of Lithuania with Russia.

Russian influence

As we have seen already, Russian influence in the oil industry in Lithuania has been substantial and there have been deliberate moves by Lithuania since 1991 to reduce this but with limited and controversial success. The main moves have involved the sale of 33% of Mazeikių Refinery, Butinge Oil Import/Export Facility and associated infrastructure to Williams International of the USA. This was completed in competition with Lukoil of Russia.

The sale of the fundamentally important Mazeikių complex along with the new Butinge facility to an American company, at a low cost has created a number of economic and political problems.

The research project concentrates upon the most significant of all industries within Lithuania and the Baltic States region, and provides a detailed analysis of the economic

and political factors.

The output from the research would be of fundamental relevance to policy-makers within Lithuania and those working upon accession in the region and with the European Union. Crude oil in Lithuania is of vital importance to the country's economic health and its progress towards EU accession is dependent upon resolving a strategy to deal with the complex set of issues noted above. There has been no fundamental research carried out on the industry up to now. The results will be of wide interest to the industry, policy-makers, practitioners and academics.

Container Transit by Rail through Lithuania

This research project has a number of objectives:

- to review the current role of the Trans Siberian Railway (TSR) in the movement of containers from Russia, the Far East and countries of the FSU to Europe and for export elsewhere;
- to assess the potential of the network for further development and the need for infrastructural and logistical improvements to achieve this;
- to analyse the role of the ports of the Baltic States (and in particular Klaipėda) in providing an inter-modal link with shipping services in the Baltic Sea in competition with alternative port facilities in Russia and Finland;
- to assess the future of container movements by the TSR through the Baltic States in the light of their impending accession to the EU;
- to identify and recommend major policy initiatives for Lithuania in terms of transit policy for potential container traffic by the TSR.

The TSR was a development of the Soviet rail network originally constructed in the time of the Tsar but supported by the Soviet state as a source of hard currency. Containerised freight flows were considerable before 1991 when following the break-up of the Soviet Union, the service was partially privatised with sale of 30% to Sealand of the USA and the formation of the Trans-Siberian Express Service (TSES). This joint venture with the Russian Ministry of Railways maintained the original aim of the route to act as an alternative (and faster) service to deep-sea links from Japan, China and Korea to Europe and the USA. Following

Maersk's acquisition of Sealand and new anti-trust regulations in Russia, Maersk-Sealand acquired 100% ownership of the service from the ministry.

TSES revenue steadily grew from US\$6 million in 1992 to around US\$60 million in 1997 but then fell drastically with the Russian economic problems. Service volumes fell from 9,259 TEU in March 1998 to 2,102 TEU in February 1999. Although traffic increased to 4,000 TEU a month by the end of 1999, the TSR remains in a depressed state.

The route offers much potential, particularly in the context of increasing environmental awareness and the emphasis on rail freight in this context, and the policies of the EU which aim to encourage inter-modal transport for similar reasons. The development of Baltic States port facilities following transition offers similar encouragement to TSR containerised services particularly in contrast to the ice affected port of St Petersburg and the port of Kaliningrad which although in Russian territory, is physically separated by Lithuania and Belarus. Both ports also have security problems. Currently the main outlets to the sea for TSR containers are through south Finnish ports and the ports of the Baltic States see opportunities in competition with them particularly in the light of new or planned container terminal facilities in Klaipėda, Ventspils, Liepāja and Riga. Competition from rail services across Europe is limited by the difference in rail gauge once crossing the Polish border and the costs this imposes.

This research aims to analyse the potential for the Baltic States ports and particularly Klaipėda, to acquire a greater share of the TSE containerised traffic. It will be practical in its approach with the aim of offering advice to policy makers in the Baltic States on strategies for the future derived from a comprehensive literature review and the close involvement of regional experts, whilst retaining strong theoretical validity through its use of established techniques of content analysis.

Both these research projects reflect the significant and growing role that Lithuania is beginning to play in the transit market between the major eastern and western regions of Europe. This role will increase as developments within the region continue to take place. Both the crude oil and container sectors are fundamental to the rise of Lithuania as a major logistics supplier in the Baltic region.